



**STATE OF TENNESSEE
COMPTROLLER OF THE TREASURY**

**DEPARTMENT OF EDUCATION
STATE BOARD OF EDUCATION
ENERGY EFFICIENT SCHOOLS COUNCIL
TENNESSEE PUBLIC TELEVISION COUNCIL**

Performance Audit Report

December 2018

Justin P. Wilson, Comptroller



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December 10, 2018

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Speaker of the House of Representatives
The Honorable Mike Bell, Chair
Senate Committee on Government Operations
The Honorable Jeremy Faison, Chair
House Committee on Government Operations
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and
Vickie Lawson, President, WETP-TV
Tennessee Public Television Council
1611 E. Magnolia Avenue
Knoxville, TN 37917

Ladies and Gentlemen:

We have conducted a performance audit of selected programs and activities of the Department of Education, the State Board of Education, the Energy Efficient Schools Council, and the Tennessee Public Television Council for the period January 1, 2014, through October 31, 2018. This audit was conducted pursuant to the requirements of the Tennessee Governmental Entity Review Law, Section 4-29-111, *Tennessee Code Annotated*.

Our audit disclosed certain findings, which are detailed in the applicable sections of this report. Management of the Department of Education, the State Board of Education, the Energy Efficient Schools Council, and the Tennessee Public Television Council have responded to the audit findings; we have included the responses following each finding. We will follow up the audit to examine the application of the procedures instituted because of the audit findings.

This report is intended to aid the Joint Government Operations Committee in its review to determine whether the Department of Education, the State Board of Education, the Energy Efficient Schools Council, and the Tennessee Public Television Council should be continued, restructured, or terminated.

Sincerely,

A handwritten signature in black ink that reads "Deborah V. Loveless".

Deborah V. Loveless, CPA
Director

DVL/jw
18/023, 18/054, 18/095



Division of State Audit
Department of Education
State Board of Education
Energy Efficient Schools Council
Tennessee Public Television Council
Performance Audit

Our mission is to make government work better.

AUDIT HIGHLIGHTS

Department of Education's Mission

Districts and schools in Tennessee will exemplify excellence and equity such that all students are equipped with the knowledge and skills to successfully embark upon their chosen path in life.

We have audited the Department of Education, the State Board of Education, the Energy Efficient Schools Council, and the Tennessee Public Television Council for the period January 1, 2014, through October 31, 2018. Our audit scope included a review of internal controls and compliance with laws, regulations, policies, procedures, and provisions of contracts in the following areas:

- circumstances surrounding the department's execution of TNReady testing during the spring 2018 testing window;
- local school districts' compliance with the state's teacher licensure requirements;
- the department's measuring of educator preparation providers in Tennessee;
- follow-up of findings reported in the August 2016 performance audit report of the Achievement School District;
- follow-up of a finding reported in the 2014 performance audit of the Department of Education and the State Board of Education relating to child care center inspections of centers that fall under the board's jurisdiction;
- follow-up of a finding reported in the 2014 performance audit of the Department of Education and the State Board of Education relating to the department's review of local educational agencies' self-reported student data;
- the Energy Efficient Schools Council's loan procedures; and
- the statutory requirements of the Tennessee Public Television Council.

Scheduled Termination Date:

June 30, 2019

KEY CONCLUSIONS

TNReady – Overall Lessons Learned

- The department, current and future assessment vendors, and other stakeholders responsible for creating a successful student assessment testing process must, at minimum, improve the implementation of online testing platforms (based on readiness); the procurement of vendor services; and internal and external communication between all parties (page 19).

Findings

- The department's 2017-2018 Annual Work Plan with Questar did not contain enough detailed information to assess whether all deadlines were met, making it less effective for contract management (page 30).
- Department management did not adequately monitor system changes to the Nextera platform between the fall 2017 and spring 2018 testing windows (page 34).
- Department management did not ensure that Questar had sufficient customer support resources and, as a result, school districts experienced lengthy call wait times leading up to and during the spring 2018 testing window; additionally, lengthy wait times may have led to high rates of abandoned calls (page 40).
- The department did not ensure that Questar had an adequate process in place to track, document, and provide status updates to districts to let them know when to expect their students' tests to be recovered, leaving schools unaware if their students completed the required tests (page 46).
- The department did not adequately evaluate and monitor the internal controls implemented by external information technology service providers (page 49).
- The Cheatham County School District did not comply with State Board of Education policy, state statute, or rules regarding teacher licensing, endorsement, and class assignments, increasing the risk that children are not receiving a proper education (page 86).
- Districts did not have formal hiring procedures, resulting in inconsistent documentation across personnel files (page 93).
- After assuming responsibility for the Achievement School District's employee personnel files, Department of Education management did not maintain all required documentation in the files, including documentation to verify that employees returned property upon separation (page 107).

For notes about the department's other areas that are not included within the scope of this audit, see the **Single Audit and Federal Reviews** section on page 11.

- The Energy Efficient Schools Council has operated under proposed rules and regulations since its inception in 2008 and did not follow the proposed rules as written (page 117).

Observations

The following topics are included in this report because of their effect on the operations of the department and the councils and the citizens of Tennessee:

- Department of Education management lacks a system for monitoring Tennessee school districts' compliance with licensing statutes, rules, and regulations, specifically those regarding endorsements and work assignments (page 96).
- Additional communication could help educator preparation providers and the public understand why each Teacher Preparation Report Card metric was included and how those metric scores are calculated (page 102).
- If possible, the Department of Education should continue reviewing regional evaluator staff assignments to ensure the assignments are rotated periodically to avoid conflicts of interest, and it should consider adding procedures to enhance its review of regional evaluators' work (page 111).
- Although various Department of Education staff review and analyze data submitted by local education agencies, department management should revisit its efforts to verify data accuracy through district-level reviews (page 114).
- The Energy Efficient Schools Council does not have legal counsel (page 120).
- The Tennessee Public Television Council did not follow the Tennessee Open Meetings Act, as required (page 123).

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INTRODUCTION

AUDIT AUTHORITY

This performance audit of the Department of Education, the State Board of Education, the Energy Efficient Schools Council, and the Tennessee Public Television Council was conducted pursuant to the Tennessee Governmental Entity Review Law, Title 4, Chapter 29, *Tennessee Code Annotated*. Under Section 4-29-240, the department and the councils are scheduled to terminate June 30, 2019. The Comptroller of the Treasury is authorized under Section 4-29-111 to conduct a limited program review audit of the agencies and to report to the Joint Government Operations Committee of the General Assembly. This audit is intended to aid the committee in determining whether the department and councils should be continued, restructured, or terminated.

BACKGROUND

Department of Education

Created by Section 4-3-801, *Tennessee Code Annotated*, the Department of Education is responsible for the state's public education system for grades Kindergarten through 12 and the state's pre-K program. According to Sections 49-1-201 and 49-1-1101, the Commissioner of Education's duties include

- implementing laws or policies established by the General Assembly or the State Board of Education and ensuring that these laws and the board's policies are faithfully executed;
- collecting and publishing statistics and other information about the public school system;
- inspecting and surveying public schools;
- submitting annually to the Governor a detailed report on the condition and progress of public schools;
- revoking licenses of school faculty found guilty of immoral conduct;
- inspecting, approving, and classifying private schools at their request;
- presenting to the State Board of Education, for its action, rules and regulations necessary to implement board policies or state law;
- conducting a public information program concerning public schools, subject to the approval of the board; and
- inspecting and approving child care centers operated by church-related schools and local school systems.

The department's organizational chart is on page 6.

Department's Organizational Structure

The department's mission statement is "[d]istricts and schools in Tennessee will exemplify excellence and equity such that all students are equipped with the knowledge and skills to successfully embark upon their chosen path in life." To carry out its mission and duties, the Commissioner directly oversees the

- Office of General Counsel;
- Office of Communications;
- Internal Audit;
- Finance Office;
- Information Technology;
- Achievement School District,¹ which focuses their efforts on schools in the bottom 5% of the state's public schools in terms of achievement; and
- eight regional Centers of Regional Excellence (CORE) Offices across the state that provide technical assistance to school districts within their region.

In addition, the department is organized into five divisions, led by either a deputy or assistant commissioner who reports directly to the Commissioner.

The office of the Chief Academic Officer is responsible for the following areas.

- The Teaching and Learning division houses the content teams who provide expertise on standards, curriculum and instruction in the areas of early learning, literacy, math, science, social studies, world languages and computer science. These teams lead initiatives such as Read to be Ready, RTI²,² Voluntary Pre-K, statewide standards training and the LEAD conference.³ Additionally, they create resources and materials for teachers and leaders that support standards-aligned instruction and professional learning throughout the year. Tools such as the state's learning management system and course code management system are also managed by this division and further support and enable effective teaching and learning at the local level.
- Special Populations and Student Support oversees the federal Individuals with Disabilities Education Act in Tennessee, which requires schools to serve the educational needs of students with disabilities. It also provides support for Project

¹ For more information about the Achievement School District, see page 105.

² RTI² stands for Response to Instruction and Intervention. It is the state's framework of highly specialized teaching and learning to assist students when they first show signs of struggling to avoid prolonged academic difficulties.

³ The LEAD [Leadership] Conference is the department's annual conference.

AWARE,⁴ school health and safety, English language learning, and the Tennessee Early Intervention System (TEIS).⁵

- The State Special Schools division oversees the state's four special schools: West Tennessee School for the Deaf, Tennessee School for the Deaf, Tennessee School for the Blind, and the Alvin C. York School.
- Healthy Schools houses the state's School Nutrition program, which is responsible for administering the federal child nutrition program within local school districts, and overseeing school health initiatives.

Teacher and Leaders (T&L) is responsible for handling educator licensure and preparation. It is responsible for certifying teacher and principal preparation programs operated by four-year colleges and universities. T&L is also responsible for evaluating the state's teachers and principals, which includes coordinating with local school districts to evaluate teacher and principal effectiveness. Finally, T&L helps school districts identify teacher leaders and provide performance-based compensation to educators serving students in high-need schools.

The College, Career and Technical Education section is responsible for two main areas. The first is college career pathways (or readiness). This area oversees programs that develop students for success in college, including early post-secondary education, such as advanced placement and dual high school/college enrollment; ACT and SAT preparation; and school counseling. The second area is career and technical education (CTE). This area is responsible for developing CTE courses, creating programs of study and program standards, and providing instructional support to school districts.

The Division of Accountability, Assessment, and Data Governance is responsible for the content and logistical side of delivering state assessments to students and serves as the point of contact for the student assessment contractor. In terms of accountability, the division is responsible for overseeing school and district accountability. It implements and facilitates the new A-F grading system and holds school districts accountable to the state's education standards. Finally, the data governance team supports other department divisions with data matters.

In the Policy and External Affairs division, staff perform legislative and policy work, and the State Board of Education's rules and regulations flow through this office. This division oversees the School Choice Program, which involves charter schools, non-public schools, and home schools. It is also responsible for the Individualized Education Act (IEA) program.⁶

Through rigorous research and data analysis, the Division of Research and Data Use aims to influence and improve the caliber of state and local action in the areas of greatest need for

⁴ Project AWARE (Advancing Wellness and Resilience in Education) is a federally funded program to expand youth access to mental health resources and to promote resilience and positive behavioral functioning among youths.

⁵ TEIS is a voluntary educational program for families with children from birth through age two with disabilities or developmental delays.

⁶ IEA is a school choice program for eligible students with disabilities. The program gives parents and students access to public education funds to use on certain types of approved education expenses that best meet the student's unique needs.

Tennessee students. The Research and Strategy team in the division conducts ongoing analysis of department policies and programs to improve department effectiveness and understand the education landscape in Tennessee. The Data Use team ensures transparent data access to the general public, schools and districts, and internal department users.

The Chief of Staff oversees Human Resources asset management and facilities at all department offices, including the state special schools and the Achievement School District. The Chief of Staff oversees the office of School Improvement, which manages the department's oversight of the state's priority schools. Under this office is Consolidated Planning and Monitoring, which is responsible for the department's subrecipient monitoring efforts.

Revenues and Expenditures

Table 1
Department of Education⁷
Fiscal Year 2017 Budget and Actual Expenditures and Revenues⁸

Department of Revenue		FY 2017 Recommended Budget*	FY 2017 Actual Expenditures and Revenues**
Expenditures	Payroll	\$ 111,495,900	\$ 95,558,092
	Operational	5,891,420,900	5,901,993,675
	Total	\$6,002,916,800	\$5,997,551,767
Revenues	State	\$4,763,852,000	\$4,714,906,000
	Federal	1,114,013,000	1,123,712,100
	Other	125,051,800	158,934,800
	Total	\$6,002,916,800	\$5,997,552,900

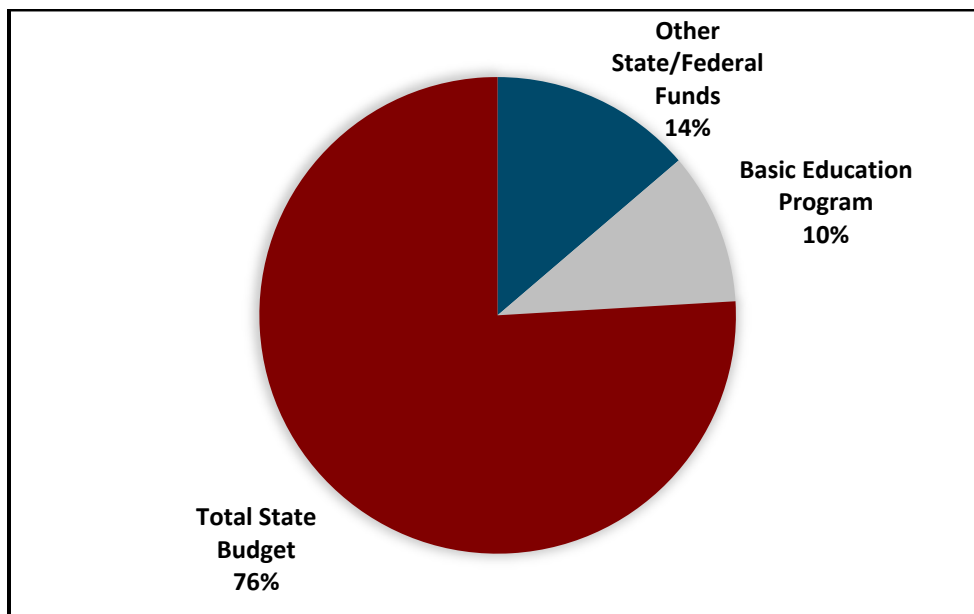
*Source: Tennessee State Budget, Fiscal Year 2016-2017.

**Source: Tennessee State Budget, Fiscal Year 2018-2019 (Actual Revenues) and State Audit Information Systems (Actual Expenditures).

⁷ The department's budgeted and actual revenues and expenditures include the State Board of Education and the Energy Efficient Schools Council.

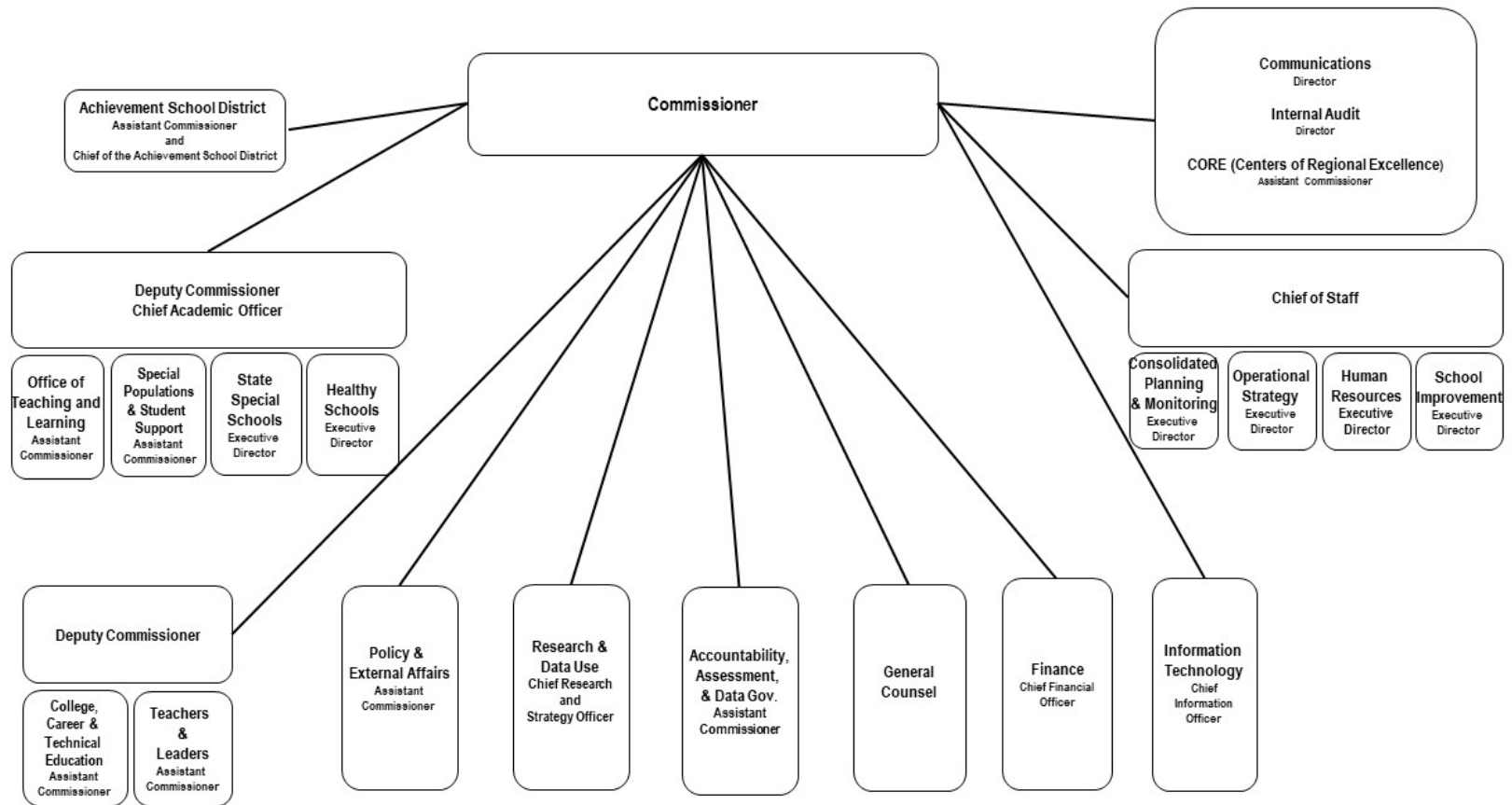
⁸ The department's business unit code in Edison is 33101.

Figure 1
Department Education
Fiscal Year 2018 Budget to State Comparison



Source: Tennessee State Budget, Fiscal Year 2017-2018.

Department of Education
Organizational Chart
October 2018



Source: Department of Education management.

State Board of Education

The State Board of Education, created by Section 49-1-301, *Tennessee Code Annotated*, is the governing and policy-making body for the state's public elementary and secondary education system. Section 49-1-302 gives the board powers in all facets of education from accountability and evaluation to curriculum and teacher education, including issuing teaching licenses. Led by the Executive Director, the board's 12-member staff provide ongoing policy research and analysis of public education issues including instruction, student assessment, and funding. The board works closely with the General Assembly to secure legislative support for education. The board also coordinates its efforts with the Department of Education, which implements law and policies established by the General Assembly and the board. Through its annual report on student, teacher, and school performance, the board provides the state legislature and the public with information about the status of education in Tennessee.

The board is composed of 11 members—1 from each of Tennessee's 9 congressional districts; 1 non-voting, ex-officio member (the Executive Director of the Tennessee Higher Education Commission); and 1 student member. All members from the congressional districts are appointed by the Governor and confirmed by the General Assembly. These board members serve a five-year term, while the student member serves a one-year term.

Energy Efficient Schools Council

Created as part of the Energy Efficient Schools Initiative of 2008 (Section 49-17-101 et seq., *Tennessee Code Annotated*), the Energy Efficient Schools Council has the ability to award grants and loans to local school systems for capital outlay projects that meet established energy-efficient design and technology guidelines for school facilities. Under Section 49-17-103, *Tennessee Code Annotated*, the purposes of the council include

- approving the design and technology guidelines;
- awarding grants or loans to school systems for qualifying capital outlay projects;
- predetermining energy use objectives;
- verifying energy efficiencies achieved; and
- to the extent feasible, establishing and supporting ongoing energy management programs.

The council consists of 12 members, including the Commissioners of Education, Environment and Conservation, and Economic and Community Development, or their designees, who serve as ex-officio members. In addition, the Governor, the Speaker of the House, and the Speaker of the Senate appoint three members each. Council members serve four-year terms. Pursuant to state law, the council is administratively attached to the Department of Education. See page 110 for more information.

Tennessee Public Television Council

The Tennessee Public Television Council was created by the Tennessee Public Broadcasting Act of 1984 (Section 49-50-901 et seq., *Tennessee Code Annotated*) to “bring about the orderly transfer of licenses and operational responsibilities for state-owned educational television stations to appropriate local community agencies, and to encourage the further development of public television broadcasting in Tennessee.” The council, which consists of the general managers of each of the seven major public television stations in Tennessee, is responsible for

- coordinating and facilitating cooperation between Tennessee public television stations;
- acting as liaison between the stations and the legislative and executive branches of government; and
- submitting annual reports of services provided and requests for appropriations to the Governor and the appropriate committees of the General Assembly.

Based on our review of state law, the council is not administratively attached to the Department of Education. See page 115 for more information.

AUDIT SCOPE

We have audited the Department of Education, the State Board of Education, the Energy Efficient Schools Council, and the Tennessee Public Television Council for the period January 1, 2014, through October 31, 2018. Our audit scope included a review of internal controls and compliance with laws, regulations, policies, procedures, and provisions of contracts in the following areas:

- circumstances surrounding the department’s execution of TNReady testing during the spring 2018 testing window;
- local school districts’ compliance with the state’s teacher licensure requirements;
- the department’s measuring of educator preparation providers in Tennessee;
- follow-up of findings reported in the August 2016 performance audit report of the Achievement School District;
- follow-up of a finding reported in the 2014 performance audit of the Department of Education and the State Board of Education relating to child care center inspections of centers that fall under the board’s jurisdiction;
- follow-up of a finding reported in the 2014 performance audit of the Department of Education and the State Board of Education relating to the department’s review of local educational agencies’ self-reported student data;
- the Energy Efficient Schools Council’s loan procedures; and

- the statutory requirements of the Tennessee Public Television Council.

Management of the Department of Education, the State Board of Education, the Energy Efficient Schools Council, and the Tennessee Public Television Council are responsible for establishing and maintaining effective internal control and for complying with applicable laws, regulations, policies, procedures, and provisions of contracts in their respective entities.

For our sample design, we used nonstatistical audit sampling, which was the most appropriate and cost-effective method for concluding on our audit objectives. Based on our professional judgment, review of authoritative sampling guidance, and careful consideration of underlying statistical concepts, we believe that nonstatistical sampling provides sufficient, appropriate audit evidence to support the conclusions in our report. Although our sample results provide reasonable bases for drawing conclusions, the errors identified in these samples cannot be used to make statistically valid projections to the original populations. We present more detailed information about our methodologies in the individual sections of this report.

We conducted our audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

PRIOR AUDIT FINDINGS

REPORT OF ACTIONS TAKEN ON PRIOR AUDIT FINDINGS

Section 8-4-109, *Tennessee Code Annotated*, requires that each state department, agency, or institution report to the Comptroller of the Treasury the action taken to implement the recommendations in the prior audit report. The prior audit report was dated November 2014 and contained two findings. The Department of Education filed its report with the Comptroller of the Treasury on June 1, 2015. We conducted a follow-up of the prior audit findings as part of the current audit.

RESOLVED AUDIT FINDINGS

The current audit disclosed that the department resolved the previous audit findings from the August 2016 Achievement School District (ASD) performance report concerning ASD's internal controls over its expenditures, travel claims, and purchasing card purchases; fiscal monitoring of ASD's direct-run schools and charter management organizations; and internal controls over its information systems.

REPEATED AUDIT FINDINGS

The 2014 performance report of the Department of Education and the State Board of Education contained findings stating that the department

- had not implemented all recommendations regarding its management and oversight of child care centers under the board’s jurisdiction; and
- did not have a centralized process to verify local educational agencies’ (LEA) self-reported data for annual school approvals.

The current audit disclosed that

- although the department improved the child care center inspection process, management could improve its process of reviewing regional program evaluators’ work and continue to ensure that regional program evaluation staff are periodically rotated; and
- the department should revisit its efforts to verify LEA data accuracy through district-level reviews.

Both prior audit findings are reported as observations in the applicable section of this report.

Single Audit and Federal Reviews



As part of the annual Single Audit of the State of Tennessee, the Comptroller of the Treasury's Division of State Audit performs a risk assessment and audits certain federal programs administered by state agencies. We review the systems of internal control over federally funded programs and compliance with program regulations. The audit's objective is to determine the state's compliance with federal requirements regarding how those funds were used. For the audit period covered by this sunset audit, several of the Department of Education's federal programs were included in the state's fiscal year 2015, 2016, and 2017 Single Audits as described in **Table 2**. See **Table 2** for a summary of the expenditures associated with these programs and the numbers of findings reported.

Table 2
Single Audit Findings – Department of Education

Federal Program	Average Federal Funds Expended Fiscal Years 2015-2017	Findings by Fiscal Year ⁹		
		2015	2016	2017
21st Century Community Learning Centers	\$27,332,782	4	5	3
Career and Technical Education	\$26,159,192	1	3	N/A
Improving Teacher Quality State Grants (now known as Supporting Effective Instruction State Grants)	\$39,504,008	3	N/A	N/A
Race to the Top	\$20,664,729	3	N/A	N/A
School Improvement Grants	\$21,978,791	1 ¹⁰	3	4
Special Education Cluster	\$244,437,462	1	N/A	N/A
Title I Grants to Local Educational Agencies	\$285,858,095	1	N/A	N/A
Child Nutrition Cluster ¹¹	\$388,494,241	0	4	3
Total Findings		8	8	6

Source: *Single Audit Reports* for fiscal years 2015, 2016, and 2017:

http://www.comptroller.tn.gov/repository/SA/2015_TN_Single_Audit.pdf

http://www.comptroller.tn.gov/repository/SA/2016_TN_Single_Audit.pdf

http://www.comptroller.tn.gov/repository/SA/2017_TN_Single_Audit.pdf

See **Table 3** for a summary of the department's results for the three programs audited for fiscal year 2017.

⁹ Some findings applied to multiple programs; therefore, the "Total Findings" is less than the sum of the findings for each program.

¹⁰ Although we did not audit the entire School Improvement Grants program, we performed follow-up work for this grant relating to the Achievement School District. The work resulted in one finding.

¹¹ The Department of Education is only responsible for the following programs in the Child Nutrition Cluster: the School Breakfast Program, the National School Lunch Program, and the Special Milk Program for Children.

Table 3
Department of Education
Finding Summary for 2017 Single Audit

REPEAT FINDINGS	NEW FINDINGS	TOTAL FINDINGS	KNOWN QUESTIONED COSTS
3	3	6	\$41,408

REPEAT FINDINGS

- 2017-001 As reported in the prior year, the Department of Education still did not demonstrate it verified that subrecipients received Single Audits
- 2017-002 The Department of Education did not provide adequate internal controls in one area that was noted in the prior audit
- 2017-005 Although management has made improvements to internal controls over the School Improvement Grants program since fiscal year 2013, they did not identify unallowable costs charged to the program by charter management organizations during the audit period

NEW FINDINGS

- 2017-003 Department of Education management did not maintain documentation to demonstrate that the Executive Director of Local Finance reviewed the maintenance of effort calculations for local educational agencies
- 2017-004 The Department of Education did not ensure that the internal controls related to the vendor-hosted ePlan application were appropriately designed and operating effectively
- 2017-064 The Department of Education and the Department of Human Services did not ensure that the internal controls related to the vendor-owned Tennessee: Meals, Accounting, and Claiming application and the Tennessee Information Payment System application, respectively, were appropriately designed and operating effectively

In response to the audit findings and recommendations, the department must develop corrective action plans to submit to the appropriate federal awarding agency. The federal grantor is responsible for issuing final management decisions on the department's findings, including any directives to repay the federal grants. Our office is required to determine whether the department has taken full corrective action, partial corrective action, or no action.

We are currently auditing, for the 2018 Single Audit,

- Career and Technical Education;
- Grants for State Assessments and Related Activities;
- the Special Education Cluster;
- Supporting Effective Instruction State Grants (formerly known as Improving Teacher Quality State Grants);

- Title I Grants to Local Educational Agencies; and
- the Child Nutrition Cluster.

The results of the audit, which includes our follow-up on the corrective actions for the prior audit findings, will be reported by March 31, 2019.

Audit Conclusions



TNReady

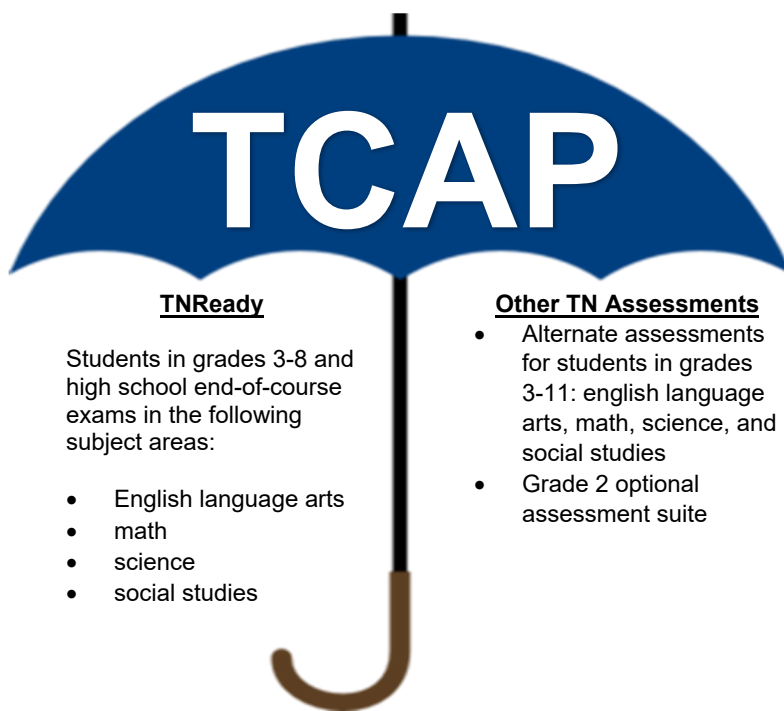


WHAT IS THE TENNESSEE COMPREHENSIVE ASSESSMENT PROGRAM?

The Tennessee Comprehensive Assessment Program (TCAP), which has existed since the 1980s, includes *TNReady*, the state's subject tests for students in grades 3 through 11, as well as *other assessments*, such as alternate assessments for grades 3 through 11 for students with special needs and grade 2 assessments.

WHY DOES THE TENNESSEE COMPREHENSIVE ASSESSMENT PROGRAM EXIST?

As a recipient of federal education grant funds, the Department of Education is required to provide all children a significant opportunity to receive a fair, equitable, and high-quality education, and to close educational achievement gaps. Part of this responsibility is administering statewide assessments to measure academic achievement.



WHAT ARE THE OBJECTIVES OF TESTING?

According to the Department of Education's website, students' state assessments serve multiple objectives, including to

- provide feedback about students' academic progress and how their progress compares to their peers across their district and state;
- build confidence and transparency about students' readiness for college and the workforce and hold Tennessee accountable to serving all students fairly;
- help educators strengthen instruction; and
- help state and district leaders determine how to allocate resources, better invest in schools, and identify where additional support may be needed.

For more detailed information about testing in Tennessee, see **Appendix A-1** on page 53.

WHAT TESTING ISSUES OCCURRED IN SPRING 2018?

Background and Timeline of Assessment Issues

In July 2016, the Department of Education contracted with Questar Assessment, Inc. (Questar), to administer TNReady assessment tests to all Tennessee public school students from grades 3 through 12 using both computer-based and paper tests. In school year 2016-2017, Questar administered assessments, including optional online testing in the spring of 2017 for 27 districts. In the 2017-2018 school year, the department required online testing for all districts¹² and although Questar administered tests in fall 2017 with minimal issues,¹³ Questar and the department experienced a multitude of problems during the 2018 spring assessment window. It is important to note the differences between the fall and spring testing environment. The fall TNReady testing consists of end-of-course exams (high school students or middle school students taking high school courses, such as Algebra I) for schools on block scheduling; therefore, there are significantly less students testing in the fall than in the spring, when grades 3 through 8 and high schools with traditional schedules are also testing.

The department designated April 16 through May 4, 2018, as the spring testing window, during which all school districts scheduled exact days to administer the state's TNReady assessments to all grades. Each district selected their testing weeks based on the schools' available technology and student schedules, while also allowing time for makeup assessments in case any student missed his or her original appointed time.

On the first day of the testing window, April 16, the department received multiple reports from districts that students were experiencing problems when signing onto the computer-based testing platform, known as Nextera. The department and Questar worked on a fix to get students testing again; however, these issues caused delays for many districts, which had to reschedule tests when the platform did not work as intended. The department continued to receive reports from the school districts of continuing testing issues through April 30. The most commonly reported problems and a detailed timeline of events and communications can be found in **Appendix A-6** on page 82. Because of these issues and delays, the department decided to extend the

What is Nextera?

The Nextera platform is Questar's online test administration system. Nextera is made up of two components—Nextera Admin and the Nextera Test Delivery System.

Nextera Admin is a web-based test administration system, where district- and school-level users manage students and tests.

The Nextera Test Delivery System, also called the Secure Browser, is where students access and complete their tests. The test content is downloaded to the student's device to ensure uninterrupted testing for students. When the student submits a completed test, it uploads from the device to Questar's server.

"Slow logins. Blank screens. Students needing 120 minutes to take a 75 minute exam because they could not login."

-Tennessee teacher, in a TNReady survey comment

¹² In 2017-2018, all high school students tested online and districts were given the option to test online for grades 5 through 8.

¹³ Because the testing issues only involved spring 2018, we did not assess the fall 2017 testing process.

computer-based assessment window through May 9, 2018, to ensure all students could complete their assessments.

REQUEST FOR REVIEW

On April 24, 2018, given the issues that were occurring during the spring 2018 testing window, the Speaker of the House and House Government Operations Committee Chairman sent a letter requesting the Comptroller perform “a review of the TNReady contract with Questar, related to the recent cyber-attack during the assessment period.” The Comptroller directed staff to perform work to answer the specific questions outlined in the letter. Both the letter and the Comptroller’s response are located in **Appendix A-3** on page 67.

In response to the letter request, we reviewed the events of the student testing window, as summarized in Table 7 in **Appendix A-2**, with special emphasis on the most disruptive events occurring on April 16, 2018, and April 17, 2018. We interviewed key staff members of the Department of Education and Questar and reviewed supporting documentation necessary to gain an understanding of the events. We believe that the student testing issues occurred primarily because of Questar’s design of the student assessment system.

April 16, 2018

The first signs of trouble occurred as students began to log on to the Nextera platform to begin testing. Questar’s system design included an obscure setting related to how students logged onto the system, which caused significant delays in student logins. Questar identified and corrected the problem a little over an hour after districts reported issues that morning, but students were not able to get into the system for more than an hour beyond that, and, as a result, some districts canceled testing.

“It was very stressful for the teacher and the students. It took so long to get a class logged in that the first students in were logged out by the time the last students got in. It took over an hour to even begin the first test. By that time kids were upset and frustrated.”

-Tennessee teacher, in a TNReady survey comment

April 17, 2018

On day two, school districts experienced widespread problems and Questar reported having unusual network activity that they thought could be consistent with a cyberattack. In light of its

“On our second day of testing, (April 17), students were unable to submit their responses in the morning. We returned to testing rooms later that day to resubmit. Many students found their answers to their multiple-choice questions were saved, but their essays were not. They had to do the essays again. This was not fair to these students.”

-Tennessee teacher, in a TNReady Survey comment

own concerns of a cyberattack, the department requested the assistance of the Metropolitan Nashville District Attorney General and the Tennessee Bureau of Investigation to provide an independent investigation of the suspected cyberattack. The department also contracted with a third-party vendor to investigate the suspected incident. We also participated in meetings with the third-party contractor and the Tennessee Bureau of Investigation to monitor the status of the investigations. The third-party contractor

concluded there was no evidence of a cyberattack and no evidence that student data was inappropriately accessed or stolen. On June 19, 2018, the Metropolitan Nashville District Attorney General briefed us that no criminal charges would be filed regarding the suspected cyberattack.

Based on our audit procedures and our discussions with the third-party contractor, we found that bugs in Questar's software installed on the students' testing devices, combined with slow Questar servers (see **Finding 2** on page 34), produced an overwhelming amount of internet traffic, which eventually shut the system down. This system shutdown may have led the department and Questar to believe a cyberattack caused the shutdown. In response, Questar upgraded the processing capability of its IT equipment in an attempt to handle the increased internet traffic. However, students and educators reported continued difficulties with student testing until Questar and the department identified the root cause and agreed to implement a fix beginning on May 1, 2018, through the remainder of the testing window. No significant testing problems were noted for the remainder of the spring 2018 assessment window.

Based upon the work we performed, and the results of the independent reviews of the suspected cyberattack, we found no evidence that the department and Questar acted inappropriately in response to the April 17, 2018, incident.

Department of Education's Performance Audit and TNReady

We also performed an in-depth review of the TNReady student assessments in this performance audit. As part of our audit, we surveyed teachers to independently gain an understanding of the magnitude of the TNReady testing issues as experienced by teachers who administered and proctored the tests. Overall, teachers indicated that they experienced problems with logging in, submitting tests, and platform latency. For more details about the survey, see **Appendix A-4** on page 72.

AREAS OF AUDIT FOCUS

Because of the enormity of the Department of Education's responsibilities to prepare and execute a statewide assessment, we could not audit all factors and processes and thus prioritized our audit scope to address recommendations for future testing success and to raise awareness of the complex issues that the department, its vendors, and local educational agencies face in administering these exams, particularly online exams. Based on discussions with department and Questar management and the results of our survey, we focused our audit efforts on the following audit objectives to determine what caused the problems in spring 2018 and to determine and recommend actions to ensure the department and the assessment vendor are better able to successfully administer future TNReady tests. Because the department and Questar are constantly implementing changes, it is important to note that our audit conclusions are based on information that was available to us through the end of our audit fieldwork, October 31, 2018.

Due to the critical, time-sensitive nature of the information in this report and the ongoing efforts of the department's management to correct these problems going forward, we will first address our audit objective, conclusion, and recommendation specifically related to what

management should address now to avoid repeating the missteps in student testing. We have also reported additional objectives, conclusions, and recommendations that describe the details of conditions specifically related to the spring 2018 student testing window. See objective 1 below and objectives 2 through 9 in the subsequent section.

Audit Objective and Conclusions for Future Assessment Success¹⁴

- 1. Audit Objective:** How can management use lessons learned from the 2018 spring assessment difficulties to ensure successful future testing administrations?

Conclusion: We identified steps management should take to ensure success for the future based on lessons learned from the 2018 spring assessment difficulties. Management has taken steps to address many of the issues impacting the 2018 spring assessment window. Current management has also identified critical vendor requirements for the next vendor procurement and plans to release the next request for proposals in the coming months. See sections Overall Lessons Learned on page 19 and Current Status of Test Administration in Tennessee on page 26.

OVERALL LESSONS LEARNED

Following the 2018 spring assessment window, the department experienced a period of intense media and legislative scrutiny. On June 14, 2018, the Department of Education's Commissioner announced that in the coming months, the department will issue a new request for proposals (RFP)¹⁵ for assessments, including online testing. Additionally, Questar and the department signed a contract amendment, effective October 1, 2018,¹⁶ which introduced new requirements and accountability measures for Questar. Furthermore, the department has reorganized and created a new project manager position to improve contract management going forward. It is also important to note that the department, in the normal course of business, is updating student assessments to ensure the assessments reflect any new changes in academic standards.

Over the course of this audit, the department and Questar worked constantly to address the issues that caused or contributed to the spring 2018 testing problems. The Comptroller of the Treasury's Division of State Audit typically performs post-audits, identifying and reporting past problems and recommending future improvements. However, because of the rapid pace of departmental and contractual change during the audit, we have reviewed management's current changes and included those changes in our analysis of department operations, where possible. This audit does not include any changes that the department and Questar initiated after our fieldwork.

¹⁴ See **Appendix A-5** on page 80 for the methodologies to meet our audit objectives.

¹⁵ A request for proposals (RFP) is a written solicitation for written proposals to provide goods or services to the state.

¹⁶ The contract ends on November 30, 2019.

We have examined and explored various issues that occurred during the department's and Questar's administration of the state's online assessments during the 2018 spring testing window with the goal of ensuring a successful move to online testing.

Based on the audit work we did perform, we found that the department, current and future assessment vendors, and other stakeholders responsible for creating a successful student assessment testing process must, at minimum, improve the following:

- **implementation of online testing platforms (based on readiness);**
- **procurement of vendor services; and**
- **internal and external communication between all parties.**

"I really don't understand why so many other states are able to successfully administer online testing, and Tennessee continues to have so many issues. I DON'T think we should abandon online testing, I just think we need better leadership to implement this kind of testing and better partnerships with stronger vendors."

-Tennessee teacher, in TNReady survey comment

IMPLEMENTATION OF ONLINE TESTING PLATFORM FOR ASSESSMENTS

The Department of Education is required to administer the state assessments each year; however, the department is not required to administer assessments online. The department's push to implement online tests may have been overly ambitious.

From 2011-2014, the department was preparing for the computer-based Partnership for Assessment of Readiness for College and Careers (PARCC) assessments; however, in May 2014, Governor Haslam signed into law legislation that delayed PARCC assessments and required the department to issue an RFP to adopt and field test a new assessment (See **Appendix A-1** for more information about PARCC). This RFP led to the department's contract with Measurement, Inc. In the 2015-2016 school year, when online testing under Measurement Inc. began, the department experienced difficulties administering TNReady online. In response to these difficulties, the department cancelled the contract with Measurement Inc. and was forced to enter into an emergency procurement option to secure a new vendor to administer the online and paper assessments for the 2016–2017 school year.

"It seems like the state would have been more prepared than this. They ask us to be prepared. Why can't they be prepared?"

-Tennessee teacher in a TNReady survey comment

All stakeholders recognize the critical need for the department and its vendor to sustain continuity of student testing from year to year; however, department management should avoid being forced to implement assessment processes without allowing for adequate time to respond to and resolve potential issues with assessment vendors.

We have concerns that the department has proceeded with large-scale procurements involving millions of dollars under intense time constraints. While management may not be able to anticipate all potential implementation pitfalls, management must recognize that the urgency to implement may have negatively impact successful student testing, and it should mitigate any risks to continuity and student experiences to the fullest extent possible.

Continuing Online Issues and Impact on Student Testing

Also, in light of the online testing difficulties districts experienced for 2017–2018 assessments, the department should reconsider the timing of full implementation for online assessments. As we learned from respondents to our TNReady survey, with each failed attempt at online testing, educators and students become more frustrated. Some respondents believed that online testing problems could result in students not performing to the best of their abilities on assessments, especially if they lack confidence in the process. Other respondents believed that the media coverage of legislative decisions surrounding how the assessment data could be used impacted student attitudes as well.

“After the first 2 days of nothing but problems, many students gave up. When they took subsequent parts of the tests they flew through them clicking any answer at all simply to get the test finished before it crashed again. Students were so discouraged by the entire process that gave up trying.”

-Tennessee teacher, in a TNReady survey comment

The department should implement online testing at a rate necessary to ensure it is meeting its stated objectives for the use of student assessment data. The department should select the form of the test—paper or online—that best supports its objective of gathering accurate data about student achievement and growth.

As of October 31, 2018, the department plans to move forward in school year 2018–2019 and beyond as follows:

- high schools (end-of-course exams)—online;
- grades 6 through 8, social studies¹⁷—paper;
- grades 3 through 8, math and language arts—paper;
- grades 5 through 8, science (field testing¹⁸)—online; and
- grades 3 through 4, science (field testing)—paper.

As the department moves forward to procure a vendor for state assessments, the department leadership and staff should develop clear expectations for the transition to online testing and work to ensure that transition is successfully implemented. Department management must coordinate

¹⁷ Due to changes in social studies standards in grades 3 through 5, the department is pausing the social studies assessment for those grades in 2018–2019.

¹⁸ Field testing means that the test is not officially scored and reported; rather, it provides the department information to use for future test development. Because of changing science standards, the entire science test will be field tested in school year 2018–2019.

closely with the current and future TNReady vendors to ensure that the vendors can support the department's planned timetable for implementing online testing.

PROCUREMENT OF VENDOR SERVICES

Original Vendor Procurement Process

The previous Commissioner of the Department of Education, who served from 2011 to 2014, issued the original request for proposals (RFP) to the public on July 18, 2014. This RFP, which was required by law, led to the contract with Measurement Inc.

"I like the online testing format; however, I do not like that our testing was completely ruined this year due to the choice of vendor."

-Tennessee teacher, in TNReady survey comment

The purpose of the RFP was "to secure a contract to conduct the administration, scoring, reporting, analysis, and continued item and form development of the Tennessee Comprehensive Assessment Program's (TCAP) Assessments in English Language Arts and Mathematics." The original RFP scope encompassed the following:

- grades 3 through 8 English language arts and mathematics assessments; and
- end-of-course assessments—English I, II, and III; Algebra I and II; and Geometry or Integrated Math I, II, and III.

For more information about the original RFP, see **Appendix 6** on page 82.

Current Commissioner's RFP Concerns

"If you continue to use on-line testing, then maybe vet the vendor and the test itself before throwing it at 1000's of children. Look into an already established and proven testing company."

-Tennessee teacher, in a TNReady survey comment

Although the department's current Commissioner was not involved in creating the original RFP, she stated that it was weak on the technology side, particularly as it related to online testing. In fact, we found that descriptions of online assessment systems only accounted for 10% of the technology section's score, with the section accounting for 50% of the total points available.

Additionally, the current Commissioner stated that a vendor's experience in assessment was very important; however, the RFP only assigned 5% of the total score for this critical qualification. Based on our discussion with the Commissioner regarding the Measurement Inc. contract and our review of related news articles, the department decided to cancel the contract with Measurement Inc. in March 2016 because Measurement Inc. could not perform on the scale that the department expected to ensure successful assessments in Tennessee. We reviewed the bid package for Measurement Inc., which included a section for an analysis of customer references. In this section, we found that the Connecticut Department of Education indicated that Measurement Inc., in its opinion, fell short in the area of online testing. The customer reference

states the following:

Question: In what areas of good or service delivery does/did the reference subject fall short?

Connecticut Department of Education: Their online test delivery system, MIST [Measurement Incorporated Secure Testing], has not been top notch. MIST has not been easily responsive to changes and additions, especially for innovative item types or test accommodations. Item development has been solid, except when more innovative items were needed that are aligned to new and more challenging standards . . . we have experienced some deficiencies in the areas of online testing and item development when it comes to innovation . . . I'm not sure if we would contract with them in the future if innovation in item development and online testing aligned to new standards were our top priorities.

Also based on our review of this customer reference section of the RFP contained in Questar's bid package, the Indiana Department of Education's reference stated that, in its opinion, Questar was not strong at contingency planning. Specifically, in reference to Questar, the Indiana Department of Education stated,

"The state should have had a contingency plan! Any first year teacher would know that if your lesson plan includes technology, you better have something else ready if and when that technology fails."

-Tennessee teacher, in a TNReady survey comment

It would be helpful if staff at Questar were able to anticipate issues and create contingency plans in advance. Also, it would be helpful if Questar staff provided more details regarding implications of program implementation.

During our exit conference with department leadership on November 26, 2018, we learned that the department had a contingency plan in place for online testing technology failures. In that meeting, the Assistant Commissioner of Accountability, Assessment, and Data Governance stated that the department had printed paper tests that were stored in a warehouse, ready to send to districts if needed. Because this information was given to us after completion of fieldwork, we were unable to verify its accuracy; however, we felt this information was important to provide.

Our RFP Concerns

We did not audit the original RFP or the department's procurement process; however, based on our audit procedures related to TNReady's spring 2018 administration, discussions with the current Commissioner and staff, and a review of the RFP, we identified the following concerns:

1. The RFP was very broad in scope. It encompassed all aspects of assessment: administration, scoring, reporting, analysis, and test development. The fact that the department received only five proposals raises concerns about the breadth of the RFP and that it may have limited the number of vendors that could bid. The five vendors that responded included CTB/McGraw Hill; Questar Assessment Inc.; Vantage Labs

(USA) LLC; Measurement Inc.; and NCS Pearson Inc.

2. Based on discussion with the Commissioner, the state contracted with Questar under an emergency procurement arrangement following the concerns related to Measurement Inc. This procurement was expedited because the department needed to secure a vendor before the next year's test. Questar was chosen, in part, because its proposal was the next highest score from the original RFP process. The Commissioner stated that Questar was also the one of the only vendors that bid on the original RFP that could deliver the assessment on such a short timeframe. Following Measurement Inc.'s failed administration, however, the department could have considered the option of issuing a new RFP for online assessments, while using the emergency procurement to provide for paper testing in the interim. In addition to directly addressing the issues the department had with Measurement Inc., a new RFP event would have given new vendors the opportunity to respond.

The Department of Education and the Central Procurement Office share responsibility to work together to create and issue an RFP that will allow for success in future testing and for seamless transitions from one administration to the next. Because assessment parameters are constantly changing, the department must be able to enter into contracts that allow for the real-time evolution of student assessments. Specifically, in response to the concerns noted in this section, the RFP should be designed in multiple parts so that vendors can expound on the areas in which they excel. This will allow for greater consideration of qualifications, including experience in specific assessment areas such as scoring or test item development, while opening the vendor pool for increased competition.

INTERNAL AND EXTERNAL COMMUNICATION

Internal – Department Groups Involved in the Assessment Process

For the 2017–2018 test administration, management used four primary departmental groups to assist with the administration of TNReady assessments. The four groups and their primary TNReady responsibilities were

- **Content, Assessment, and Design**
 - setting proficiency standards;
 - designing the tests and working with Education Testing Service (ETS)¹⁹ and Questar to develop test items; and
 - participating in user acceptance testing²⁰ of paper and online test forms.
- **Assessment Logistics**
 - coordinating test administration training;

¹⁹ The department contracted with ETS to design the social studies and science exams for the 2017-2018 school year.

²⁰ User acceptance testing included a review of the content and functionality of each test on the online platform across multiple operating systems and devices.

- coordinating the logistics of paper test printing, packaging, and shipping;
 - reviewing the test administration manuals and test administrator/proctor scripts;
 - responding to test security²¹ breaches; and
 - participating in the user acceptance testing of paper and online test forms.
- **Information Technology**
 - ensuring that all school districts were technologically ready for online testing;
 - importing student enrollment data into the Nextera platform;
 - reviewing the vendor's system documentation for quality assurance and change control processes; and
 - confirming completion of Questar's platform load and stress testing done on the Nextera platform (this test simulates the anticipated maximum number of students testing online at the same time to make sure the platform can handle the capacity).
 - **Psychometrician**
 - reviewing test items and test results to ensure that the tests are valid, reliable, and fair.

Any group's decision could ultimately impact one or more other groups. For this reason, communication among the groups and top management is paramount to ensure TNReady testing is successful.

As noted in **Finding 2**, the department stated it was unaware that Questar made a change to the online testing platform involving the text-to-speech (TTS) accommodation, which led to student testing issues during the spring 2018 test window. In our examination of documentation, we noted that the TTS change was communicated to the department's content staff in November 2017, but staff did not alert top leadership or relative groups that needed to know. This omission highlighted our concern about the lack of proper internal communication among department staff, key department groups, and top management.

Also, as we noted in the finding, the four work groups that should have been involved and aware of the TTS platform change were Content, Assessment, and Design; Assessment Logistics; Information Technology; and Psychometrics. One group's decisions could have widespread implications and affect other groups' decisions; however, the groups did not sufficiently communicate with each other, and the lack of communication of the TTS change is evidence of this critical weakness in communication. Additionally, within the groups, there were different methods to monitor project milestones and track vendor progress. This made it difficult to gather all relevant information needed to evaluate the project as a whole. For more information about contract management, see **Finding 1**.

²¹ To ensure test security, the state and the local school districts are required to implement measures to ensure the tests, and, therefore, the scores are not compromised.

External Communication

Based on discussions with both department management and Questar, our primary concern involved lack of communication between the department and Questar in terms of expectations for platform changes and the authority to make changes.

As noted in **Finding 2**, the ultimate communication of the TTS change to the department's Content, Assessment, and Design team came from ETS,²² not Questar. Questar should have formally communicated this change to top department management.

Our Communication Concerns

Another challenge that we faced while reviewing the events leading up to the spring 2018 testing window was that so many of the communications, even communications vital to the contract, were conducted via phone call²³ or in emails that the department failed to retain. This lack of documentation impacted our ability to fully understand what occurred, when it occurred, and how it ultimately affected the testing experience of students and school personnel. While we understand the need to have phone discussions with the vendor, we encourage the department to work with Questar and future vendors to implement a process to document those calls to adequately capture all key contract decisions made.

Without a formal written communication process with the vendor to document significant communications regarding assessments, the department cannot ensure transparency, nor can management ensure that critical decisions with the vendor have been properly vetted and approved. The department's ability to achieve accountability and transparency is vital for maintaining the trust of all stakeholders.

CURRENT STATUS OF TEST ADMINISTRATION IN TENNESSEE_____

Ultimately, state assessments cannot be successful without the support and efforts of educators and test administrators within Tennessee's schools. They are the ones that carry out the assessment. They need clear instruction and direction with the necessary tools to implement, including an online platform that is designed to work for them. This will require the Department of Education to have full transparency and frequent interactions with the school districts and school staff. The current Commissioner formed the Task Force on Student Testing and Assessment in 2015, comprised of 18 educators and education leaders from across the state, to examine assessments based on feedback from educators. She reconvened the task force in 2017 to further study and identify best practices in testing at the school, district, and state level. The Governor and Commissioner also took a step in that direction by embarking on a statewide listening tour in fall 2018 to elicit feedback on TNReady directly from educators, including their concerns and

²² For the 2017–2018 school year, the department contracted with ETS for the design of social studies and science exams for grades 3 through 8 and end-of-course assessments.

²³ Department staff provided notes from phone calls on October 22, 2018; however, at that was at the end of fieldwork and we were unable to review all of the notes from daily (sometimes hourly) phone calls for the months leading up to the spring testing window.

suggestions for improving the test going forward. In order to ensure that districts, educators, and ultimately Tennessee's students are on board, this must be the first of many interactions of this kind. The educators are vital to the process.

Making state assessments transparent, understandable, and verifiable is in the best interest of all Tennesseans. The department should determine the best way to preserve the integrity of the test while requiring accountability and transparency from all parties, including vendors. It should also take steps to determine the best process for ensuring this accountability and transparency while ensuring the test is secure and reliable for evaluating student growth and achievement.

Lastly, the challenges that the department and the state face in administering an annual state assessment are complex and ever-changing. It is vital for the department's current administration to begin laying the framework to create long-term solutions with a focus on the lessons learned from the spring 2018 student assessment window. These decisions will certainly affect future administrations, and department leadership must work to ensure that internal controls established can withstand changes in leadership as the department moves forward in its pursuit of online testing for Tennessee's schools.

OUR AUDIT RESULTS OF WHAT WENT WRONG

In the time leading up to the spring 2018 testing window, the Department of Education and Questar prepared for the administration of Tennessee's state assessments; however, it was during this time that the department's oversight of test administration and Questar's performance fell short of expectations. As noted in the findings in this report, the department did not perform adequate oversight to ensure Questar had sufficient processes to address all the risks of test administration. We also found that the department had not performed critical test administration processes, which negatively impacted student assessments. Specifically, we found that the department and/or Questar

- did not appropriately adjust the Work Plan when it needed adjustments, rendering the document less effective for monitoring and accountability (see **Finding 1**);
- made an unauthorized change to text-to-speech software without formally notifying the department, which led to conditions that had a significantly negative impact on student testing experiences (see **Finding 2**);
- failed to sufficiently staff customer support, resulting in lengthy call wait times and high rates of abandoned calls for districts seeking assistance (see **Finding 3**);
- did not adequately track and inform districts about the progress of test recoveries, leaving districts in the dark about whether students had completed their tests (see **Finding 4**); and
- did not adequately evaluate and monitor the internal controls implemented by external information technology service providers (see **Finding 5**).

Audit Objectives and Conclusions Focused on What Went Wrong

- 1. Audit Objective:** Did the department have a process in place to effectively manage required actions to hold department staff and Questar accountable for meeting expectations and responsibilities for assessment-related activities?

Conclusion: Based on a review of the department’s 2017–2018 Annual Work Plan and discussions with department management, we determined that the Work Plan, as utilized, did not contain sufficient information to determine missed deadlines (see **Finding 1**).

- 2. Audit Objective:** Did department management sufficiently communicate the “train the trainer” model, as well as expectations for dispersing the training to school-level staff?

Conclusion: Based on our review of the department’s presentations at road shows and the 2017 LEAD Conference, as well as resources on LiveBinders, we determined that department management sufficiently communicated both the “train-the-trainer” model and its training expectations to district staff. In addition, we determined that personnel from 143 school districts²⁴ participated in the department’s training events.

- 3. Audit Objective:** Did the “train the trainer” model effectively train test administrators/proctors on what to do when they encountered problems?

Conclusion: Based on our testwork and a review of our TNReady teacher survey results, we did not find any significant problems with trainings at the state and district level; additionally, 84% of teachers who administered TNReady tests and responded to the survey generally felt well trained to administer the tests.

- 4. Audit Objective:** Did the department ensure that, between the fall 2017 and spring 2018 testing windows, Questar made no changes to Nextera that could impact student experiences for online testing in the spring?

Conclusion: Based on our audit work, although some department content staff involved in TNReady administration were aware, department leadership stated they were not aware that Questar implemented a new text-to-speech software within Nextera between the fall 2017 and spring 2018 testing windows. The software contributed to system outages under certain conditions during the spring 2018 testing window (see **Finding 2**).

- 5. Audit Objective:** Did the department adequately oversee Questar’s load and stress testing and system change control process?

²⁴ From a population of 146 school districts, 143 districts participated in training. We verified with the department that the 3 other districts did not participate in online testing.

Conclusion: Although department management stated that it received assurances from Questar that load and stress testing was successful and that it reviewed Questar's system change control process, management could not provide any documentation showing the test results or that the reviews were performed (see **Finding 2**).

6. **Audit Objective:** Did school districts experience lengthy customer support call wait times during the spring 2018 assessment window?

Conclusion: Due to Questar's insufficient customer support resources, Tennessee school districts experienced periods of lengthy call wait times leading up to and during the 2018 spring testing window (see **Finding 3**).

7. **Audit Objective:** Did the department ensure that Questar had a process in place to track, document, and notify districts of their students' test recovery efforts?

Conclusion: Based on a review of the department and Questar's communications with districts through their daily webinars that occurred throughout each day of the testing window and a review of the department's EdTools communications related to test recovery, we determined that the department communicated delays in the test recovery process to districts, but Questar did not have a process in place to track test recoveries and update districts on when they could expect to see student test answers in Nextera (see **Finding 4**).

8. **Audit Objective:** Did management mitigate the risk of outsourcing certain information technology programs, such as online student testing applications, by evaluating and monitoring internal controls implemented by external information technology service providers?

Conclusion: Based on our audit work, the department did not mitigate the risk of outsourcing certain information technology programs by evaluating and monitoring the internal controls implemented by external information technology service providers (see **Finding 5**).

CONTRACT MANAGEMENT

To meet its objectives related to assessments, the department contracts with assessment vendors, such as Educational Testing Services and Questar, to design and administer tests for public school children in Tennessee. Tennessee contracted with Questar to administer assessment tests online using a phase-in process beginning in school year 2016–2017. The department is ultimately responsible for enforcing and overseeing the contract, and department leadership uses a document known as the Annual Work Plan as the primary tool to ensure contract accountability.

Work Plan Requirements

Section A.4.a.(1) of the department’s contract with Questar requires the vendor to prepare, for state review and approval, a detailed work plan that incorporates the schedule for all activities of the contract. The Work Plan should include the actions or tasks that need to be completed in order to administer an assessment, such as the processes for creating the test questions; picking out the questions that will go on the test; delivering the test (packing and shipping for paper tests versus online testing); scoring the test; and reporting test results. It also incorporates the development of ancillary materials such as test administration manuals, test administrator/proctor scripts, communication plans, and training materials.

The contract states that the Work Plan must provide due dates for each activity and indicate areas of responsibility for the department and Questar so the department can use it to ensure timely completion of tasks as scheduled. The contract does allow Questar to revise the due dates for activities in the Work Plan; however, these revisions must be reflected in an update to the Work Plan and submitted to the department for approval within 48 hours of the revision.

Management’s Intended Use

The department was supposed to use the Work Plan as a monitoring document to ensure timely completion of tasks as scheduled. For effective contract management, the department’s management and Questar must use the Work Plan to set the key milestone dates for deliverables for the life of the project and to serve as an accountability document to ensure both the department and Questar meet those deadlines. According to the contract, the 2017–2018 Work Plan was due to the department on May 1, 2017. The Commissioner and Chief Assessment Officer told us that Questar provided the 2017–2018 Work Plan to the department late, but management was unable to confirm the date they received it for final approval.

Finding 1 – The department’s 2017–2018 Annual Work Plan with Questar did not contain enough detailed information to assess whether all deadlines were met, making it less effective for contract management

We reviewed the Department of Education’s 2017–2018 Work Plan and found that while it did list the schedule of activities, it did not indicate whether those deadlines had been met. Upon further review of the Work Plan and discussions with the department’s Chief Assessment Officer, we learned that the scheduled dates listed in the Work Plan were subject to change by

both Questar and the department. These changes, however, were not reflected in the Work Plan.

Since the Work Plan did not track scheduled due dates; actual start and finish dates; or all date revisions (which may or may not have been verbally approved by both the department and Questar), the department and Questar did not use the Work Plan as an accountability tool to meet all deadlines. Additionally, since the Work Plan did not indicate when the department and Questar started and completed the work, we could not determine if any activities were completed late or what impact such lateness could have on the entire assessment process.

Work Plan Management Software

The department and Questar use Microsoft Project, project management software, to manage the plan, which is a fluid document. The department provided us with the most current versions of the 2017–2018 Work Plan from Microsoft Project. The department's Chief Assessment Officer stated that Questar sometimes changed the scheduled dates in the Work Plan; however, since all changes to the Work Plan were not documented, we could not verify these statements. The department also could not provide us with the original Work Plan schedule of activities because it was not preserved.

We reviewed the plan that was available to see if it contained sufficient detail to determine whether the department and Questar met the Work Plan deadlines. An example of information included in the Work Plan for a specific item (a grade 8 social studies paper test book) is exhibited in **Figure 2**.

Figure 2
Example of Work Plan Structure for a Paper Test Book

ID	Project Code	Grade	Task	Duration (Scheduled)	Start (Scheduled)	Finish (Scheduled)
621	TN1805	8	Grade 8 Social Studies Paper Test Book	16 working days	1/30/2018	2/21/2018
622	TN1805	8	Department Received Final PDF	0 working days	1/30/2018	1/30/2018
623	TN1805	8	Final Department Review	3 working days	2/6/2018	2/8/2018
624	TN1805	8	Printer Ready	3 working days	2/16/2018	2/21/2016

Source: Auditor created based on information obtained from the Work Plan.

For each item, the Work Plan reflects scheduled start and finish dates for each part of the process. The Work Plan does not, however, contain the actual start and finish dates for each task and does not indicate whether any revisions to the schedule were made and approved. The department's Chief Assessment Officer stated that the department did not have any other way to track missed due dates for 2017–2018.

If the department does not document and maintain every date change, or whether Questar completed steps on time in the Work Plan, then the Work Plan is rendered less effective as an accountability tool and could impact the department's ability to fully assess penalties where appropriate.

Department's Work Plan Changes for School Year 2018–2019

Based on our discussions with the Chief Assessment Officer, the department stated that it made the following changes related to project management to address the Work Plan deficiencies for the 2018–2019 school year:

- assigned an employee to serve as the project manager dedicated solely to TNReady;
- restructured department groups to bring the Content, Assessment, and Design and the Assessment Logistics teams together under the supervision of the Chief Assessment Officer;
- had Questar sign a hard copy of the 2018–2019 Work Plan to document the original agreed upon schedule of activities and due dates, and
- created a new work plan deadline tracker for 2018-2019 that shows the scheduled start and finish dates, actual start and finish dates, and who is responsible for each work plan task.

We will examine these changes and the impact on successful test administration during the next audit.

Recommendation

Moving forward, the department should ensure that any assessment program work plans contain sufficient, detailed information about due dates, revised due dates, and missed deadlines so that both management and the vendor can use the plan as a monitoring document to ensure accountability. Additionally, all assessment staff should be able to access any supplemental review and approval tracking documents to ensure that all parties involved with test administration are informed about the project as a whole.

Management's Comment

We concur. As this report indicates, this assessment program is enormous in scope and complexity. The work plan that was used did serve a number of valuable and useful functions, including capturing the incredible number of tasks it takes to bring a statewide assessment to fruition. Additionally, while the workplan itself was not designed to be used for every single data element mentioned in this report, it was effectively utilized for many aspects of contract management and led to the detailed assessment of liquidated damages totaling almost \$4 million.

While we concur, some of the issues indicated in the finding were managed through alternative mechanisms for bringing work to completion. As stated earlier, this sometimes included daily, if not hourly phone calls, along with a variety of other communication avenues including email and in-person conversations. Morning phone calls were documented through the use of detailed notes in order to maintain a record of the conversations. These fluid conversations enabled the rapid development of the assessment, including test item development, individual item testing, scoring, and reporting, and the conversations were often captured through a plethora of call notes.

The department has fully adopted a revised workplan process, including the Single Point of Truth (SPOT) document. This revised process includes specifically assigning a staff member to be the dedicated contract manager, as well as the creation of a new workplan tracker that will provide for enhanced contract management and accountability. Additionally, a robust workplan product and process will also be included in the new assessment RFP.

ONLINE PLATFORM CHANGES

Department's Review of Nextera Platform Changes

The Department of Education's contract terms and requirements with Questar emphasize the importance of having an online test delivery platform that functions consistently from fall to spring test administrations to ensure that all students have the same online testing experience during the school year. The contract also stipulates that both Questar and the state (the department) must approve all activities potentially impacting student experiences, including system infrastructure upgrades, new software code, system enhancements, or changes to existing systems. For a description of Questar's online test delivery platform, called Nextera, see page 16.

Management's Description of Controls for TNReady Online Test Administration

Background

To ensure the department effectively manages the risks of system changes, management must establish proper system controls, which include approving system platform changes. The department's Director of Internal Audit provided us with a formal written document describing the controls the department had in place for the 2017–2018 school year, which were designed to reduce the system-related risks associated with administering TNReady online. Some of these controls included

- the department's content and logistics staff conducting user acceptance testing of the online test on multiple device types and operating systems to ensure that Nextera functioned predictably and consistently;
- Questar staff conducting automated load and stress testing of Nextera that simulated the act of aggregate, concurrent students testing at the same time; and
- the department's Information Technology staff reviewing Questar's change control processes, which are the controls that Questar has in place to minimize software errors.

Section A.10.o of the department's contract with Questar requires the contractor to implement a "methodical and structured software development lifecycle (SDLC) [a process that describes how an entity develops, tests, and implements software changes, which is documented in the entity's change control policies] to minimize operational errors, improve transparency of changes, drive inclusive decision making, and ensure optimal quality assurance." According to the department's Chief Information Officer, the department obtained and reviewed physical copies of

all of Questar’s SDLC and change control policies; conducted site visits to meet with Questar team members and observe processes first-hand; and participated in multiple phone conferences between technical team members to discuss specific areas of interest.

Verification of Controls Over Platform Changes

To verify department management’s efforts to oversee Questar’s system changes process, we requested documentation relating to the department’s user acceptance testing; automated load and stress testing performed by Questar; and the department’s review of Questar’s change control processes. We also evaluated the department’s process for evaluating and monitoring internal controls over services provided by information technology vendors like Questar. See **Finding 5** on page 49 in the Information Technology Vendor Controls section.

Finding 2 – Department management did not adequately monitor system changes to the Nextera platform between the fall 2017 and spring 2018 testing windows

Unauthorized Text-to-speech Change

Text-to-speech (TTS) technology turns text into “life like” speech. It is provided as an accommodation to students with disabilities that limit or prevent their ability to read printed or online text. The TTS technology used during the spring 2018 testing window was provided through the Amazon Polly TTS service. Questar used Amazon Polly to translate the text associated with all TNReady tests into audio files. Questar did not store the audio files within the Nextera platform; instead, Questar used a caching server²⁵ to facilitate the transfer of TTS audio files to a student’s device when the student began testing on his or her device. Amazon Polly required an internet connection for the audio files to function on student devices. If a student needed a TTS accommodation, Nextera would stream the audio file, so the student could hear it and answer test items.

Questar made the change to the TTS software within Nextera sometime between the fall 2017 and spring 2018 testing windows, and this change contributed to the online testing disruptions. Based on our review of communications among the Department of Education, Questar, and the school districts, we determined that the caching server used to transfer TTS audio files caused Nextera to slow down. We were unable to determine the exact date Questar implemented this change within Nextera because neither the department nor Questar could provide us with documentation. We were, however, able to confirm that some department staff on the content team learned about Questar’s intention to use a new internet-based TTS system (Amazon Polly) for the spring 2018 testing window as early as November 2017, but according to department leadership, they were adamant that

“[the department was] not party to the TTS change. It was not requested, approved, or managed by [the department].”

²⁵ A caching server is a network server that stores internet content locally. By doing so, individuals can access the content faster while reducing demand on the network.

During our fieldwork, we did not find any documentation that department leadership knew about or approved the TTS change. On May 1, 2018, the department and Questar disabled Amazon Polly, and the school districts did not report any further online testing disruptions related to TTS.

Department's Communication of Text-to-speech Change

Some staff within the department's Content, Assessment, and Design group learned about Questar's plan to use Amazon Polly on November 20, 2017, through discussions with the Educational Testing Service (ETS), Questar's parent company. Based on our review of the department's "Assessment Team's Content Call Notes" documentation, we read that ETS discussed TTS with the Content, Assessment, and Design team. It was not clear, however, if or when ETS disseminated Questar's intent to change TTS to the department's Assessment Logistics, Information Technology, or Psychometric groups because department leadership repeatedly stated that they did not know about the change. If some department staff became aware that Questar planned to make a software change to the Nextera platform, staff should have communicated this plan to all relevant groups to determine the software change's potential impact on Nextera and the test delivery process before the testing window began. See page 24 for the need for improved internal communication.

Questar Change Management Policies

We asked Questar to provide its formal change management policy, a log of systems changes made in the weeks leading up to the first day of testing, and documentation of change approvals, which all serve as internal controls of an organization's software development life cycle. Questar, however, did not provide a formal change management policy and only provided an informal list of system changes implemented—without exact implementation dates.

Questar also stated that it implemented new Nextera functionalities between February 5 and April 16, 2018, which included Amazon Polly and some other changes to Nextera's test administration side. Questar did not, however, provide us with sufficient detail to determine when those changes were actually implemented in Nextera. Questar did not provide documentation of the department's approvals for these changes because Questar project management believed that the department's "sign off and approval is not required for platform changes," although Section A.10.o.(3) of Questar's contract requires "inclusive (contractor and state) sign off and approval on all activities potentially impacting student experiences, including; [sic] infrastructure upgrades, rolling new code, functional enhancements, or changes to existing systems."

Our Audit Results for Department Oversight of Load and Stress Testing

We requested that the department provide documentation of the results of Questar's automated load and stress testing of Nextera for fall 2017 and documentation of the department's review of Questar's change control processes. The department's Chief Information Officer stated that the department regularly inquired into the results of the load and stress tests and received assurances from Questar that each had passed; however, the department was not a formal party to those internal tests conducted by the vendor. As such, the department could not provide documentation of the results of Questar's load and stress testing or the department's review of

Questar's change control processes; therefore, we were unable to verify the dates or results of these load and stress tests or even if the tests were performed.

The Chief Information Officer also stated that the department obtained and reviewed Questar's software development lifecycle and change control policies; conducted site visits to meet with Questar team members and observe processes first-hand; and participated in multiple phone conferences between technical team members to discuss specific areas of interest. The department, however, did not provide any documentation of the results or even that these reviews were performed.

If the proper department management is not aware of, or included in, key software decisions, it cannot mitigate quality assurance risks that could negatively impact students' testing experience.

Department's Contract Amendment Affecting Nextera Platform Changes

Over the course of our audit, the department worked with Questar to amend their contract to address some of the issues that arose during the spring 2018 test administration. The Commissioner signed the amendment into effect on October 1, 2018. This amendment includes new language that requires Questar to coordinate and execute a one-day, multi-state stress test on the Nextera platform that is designed to ensure that the platform can withstand the impact of aggregate, concurrent loads from all states who typically test at the same time as Tennessee. According to management, the department did not execute multi-state stress testing in fall 2018 because other states would not participate. The department plans to utilize it in spring 2019, when other states have indicated they would participate. By having a hands-on approach, the department could identify system issues and correct them earlier.

The contract amendment also requires Questar to identify the most stable and reliable version of Nextera, which the amendment calls the "stable version." The amendment requires that the stable version go through rigorous quality assurance testing by Questar with the department's involvement. TTS will revert back to the old system (pre-Amazon Polly), and other functions will be simplified to produce the "final version" of Nextera, which will be used for the 2018–2019 school year. The amendment requires that the final version also go through rigorous quality assurance testing by Questar, and the department will also be involved in this process. The amendment states that the final version must be in place by November 12, 2018, and the department will conduct user acceptance testing of the final version and load, stress, and resilience testing in conjunction with Questar no later than this date. Once the department accepts the final version of Nextera, no changes of any kind may be applied without the department's approval for the duration of the 2018–2019 assessment season.

Based on our review of the amendment, the amended contract language does allow the department increased visibility into Questar's quality assurance process for the platform, which could help the department be aware of key software decisions. The department also implemented a "Single Point of Truth" (SPOT) spreadsheet to document key assessment decisions by both Questar and the department. This document lists each major decision, how the decision impacts the assessment program, the target implementation date, and who has been notified of the decision.

Recommendation

Department leadership should ensure that all department staff involved in assessment testing clearly communicate updates and changes to all relevant department personnel. Although department leadership tightened the contract language through a contract amendment, department leadership should ensure this language is included in the next TNReady online testing vendor request for proposals and contract. Department leadership should work with Questar to ensure that the multi-state stress testing is conducted prior to the spring 2019 assessment window. In addition, department leadership should adequately monitor and document its reviews of vendor system controls to ensure the vendor has adequate and documented change control processes. Furthermore, the department should ensure it continues using the SPOT spreadsheet to document all key assessment program decisions.

Management's Comment

We concur with the importance of strong internal controls and communication, as well as appropriate third-party monitoring. The department believes it adequately monitored for system changes it had the ability to control and could have visibility into. Change management is fundamentally a responsibility of the vendor, with oversight from the department. The department will work with the vendor to improve documentation of that change control process. However, appropriate oversight is thwarted when a vendor departs from their own documented processes as was apparent in this situation.

Similarly, while stress and load testing is an important and valid control for multiple potential issues, the department believes that this report may be placing undue emphasis on the evidence of stress and load testing as a control rather than department's approach of phased uplift.

Phased uplift is the process by which our contractor demonstrates their capability through a series of successful administrations, where the size, scope, and scale grow with each successive administration. In this case, the vendor began with a paper administration in the fall of 2016, followed by a paper administration in the spring of 2017 where 27 districts opted-in to test online. After the 2016-2017 administration, the fall 2017 administration moved entirely online with nearly 100 districts successfully testing online. Up to this point, no major issues had been identified in the overall phased strategy.

The spring 2018 testing was a natural next step as part of the phased uplift after the successful fall 2017 administration. It had required all high school tests to be online, as well as an opt-in online administration for grades 5-8. The primary cause of the spring 2018 breakdown revolved around incorrectly configured settings in a caching component. These changes were made between the fall 2017 testing administration and the spring 2018 testing administration without formal notification from the vendor or approval from department leadership. These changes, under the existing contract language, should have been formally approved by the department. As a result, the department has assessed almost \$4 million in damages. Because the unauthorized change happened after the last successful phase of the phased uplift model, it undercuts the validity of

prior sequential successes. As confirmed by the department’s third-party contractor, Microsoft, the issue also would not have been caught by stress or load tests.

Unfortunately, department leadership was never formally notified of the change to the caching component by the vendor, nor did department leadership formally approve such a change. The Content, Assessment, and Design team is not a team with any technical expertise, and ETS is not our testing vendor for delivery of the assessment. While this comment from ETS represents an opportunity for improvement within the department’s internal conversations, it does not represent formal notification nor acceptance by the department as was required by contract. Similarly, the department believes it is unrealistic to assume it could have direct oversight over a vendor’s proprietary code base, and therefore partially relies on a measure of trust between the department and the vendor. The prior version of the contract prohibited unauthorized changes. Going forward, and as indicated in the report and recommendations, the amended contract continues to prohibit unauthorized changes and provides the department “increased visibility into the vendor’s quality assurance process of the platform.”

Once the unauthorized changes had been rolled back, and the system was operating under the “as verified” configuration that the department had tested and approved, the spring 2018 window set a record for the largest number of test parts completed online in a single day for Tennessee with minimal to no issues.

In terms of the provided recommendations, the department has already realigned the Content, Assessment, and Design team under the Chief Assessment Officer to better inform and improve communications between the multiple teams involved the assessment program. Likewise, the language in the vendor contract has been amended to provide additional actionable steps in the case of a breakdown, and the department is moving toward a robust RFP. The department is also working toward the administration of a multi-state stress test (subject to other states’ agreement) to check the platform’s functionality under conditions that will be similar to the spring 2019 operational window. Finally, the department is also continuing to use the SPOT (Single Point of Truth) spreadsheet to manage elements of the assessment process, as noted above.

QUESTAR CUSTOMER SUPPORT

The Department of Education is ultimately responsible for ensuring the TNReady Assessments for all school districts are successfully administered. Part of this responsibility includes providing customer support to the school districts in the event that problems occur during the testing window. Department management contracted with Questar to operate a dedicated call center to handle any issues arising during the administration of TNReady assessments. Questar also agreed to provide other services, such as tracking calls, to facilitate successful testing.

Customer Support Process

The department’s contract with Questar outlines responsibility and expectations for customer support. The contract states that for all test administrations and each Questar-supported application, including Nextera, Questar was expected to

1. Operate a dedicated call center and respond to all calls and emails within one working day of receipt using the same delivery method as received (phone or email). Additionally, Questar was required to offer an online chat system by September 2017.
2. Log, document, and summarize comments, complaints, and questions from schools and Education Agencies²⁶ regarding services and products provided by Questar.
3. Provide a contact support ticketing system that tracked issue types, status, and resolution for telephone, internet chat, and email support. It also required Questar to accept support tickets that EdTools generated.
4. During call center hours, make available trained technical support staff for any issues that call center staff could not resolve.
5. During test administration, provide additional support staff to handle computer-based test administration calls and trained technical support staff to handle issues that call center staff could not resolve.

During the spring 2018 testing window, Questar offered several methods of communication for districts, including customer support options for questions about assessment administration or technical issues. Questar and the department jointly staffed a “tactical operations center,” which consisted of an open conference call available for district technology directors to provide time-sensitive answers to questions related to assessment administration or major district technology issues. The department and Questar were available via the open conference call between 7 a.m. and 4:30 p.m. central time. Additionally, the department and Questar jointly hosted daily webinars each afternoon for district testing coordinators to review common challenges and address any questions. Also, Questar provided technical customer support by phone, chat, and email. Based on discussion with Questar management, the customer support levels and processes were as follows:

- **Level 1** received all initial contacts with questions from phone, chat, and email.
- **Level 2** received cases that Level 1 staff could not resolve. If a case was escalated to Level 2, staff entered a ticket into Jira, Questar’s tracking software.
- **Level 3** received any cases that Level 2 staff could not resolve. However, if Level 3 staff resolved a case, Level 2 staff were responsible for contacting the customer with the resolution.

Additionally, Questar employed Field System Engineers, who were the “boots on the ground” during the testing window and were able to address questions, open customer support cases, and help resolve issues in the field.

²⁶ The contract defines Education Agencies as “a term to collectively refer to all Tennessee public local education agencies (LEAs), charter schools, State Special Schools, the Achievement School District as defined in T.C.A. Section 49-1-614, Department of Children’s Services schools, and approved private schools.”

Questar’s Chief Operating Officer also explained that Questar had 8 full-time/seasonal staff and 12 temporary staff dedicated to Tennessee during the testing window, for a total of 20 staff to handle customer support for Tennessee’s districts.

Finding 3 – Department management did not ensure that Questar had sufficient customer service resources and, as a result, school districts experienced lengthy call wait times leading up to and during the spring 2018 testing window; additionally, lengthy wait times may have led to high rates of abandoned calls

Testing Window Issues

During the spring 2018 testing window, districts experienced long wait times when contacting customer support. As evidenced in **Table 4**, on April 16 through 19, the first four days of the testing window, call wait times approached one hour. Additionally, the percentage of abandoned calls over these four days ranged from 38% to 63%; therefore, districts may not have received the assistance they needed.

Table 4
Questar Call Center Wait Times During the 2018 Spring Testing Window
(in minutes)

Date	Total Calls Received—Completed and Abandoned	Max Queue Wait Time	Average Queue Wait Time	Average Time to Abandon	Total Calls Abandoned	Average Talk Time	% of Calls Abandoned
4/16/2018	399	60:00	17:15	10:54	178	13:44	45%
4/17/2018	329	60:00	20:02	12:28	206	13:05	63%
4/18/2018	266	58:28	14:24	7:06	103	46:00	39%
4/19/2018	227	51:33	13:13	9:00	87	17:00	38%
4/20/2018	141	19:15	3:26	2:00	21	31:00	15%
4/23/2018	191	34:42	7:58	4:10	60	22:00	31%
4/24/2018	153	18:19	3:02	3:20	19	53:00	12%
4/25/2018	141	39:03	7:08	7:36	19	9:00	13%
4/26/2018	176	27:15	6:54	10:04	51	18:00	29%
4/27/2018	106	8:26	1:20	1:44	7	14:00	7%
4/30/2018	176	29:21	7:05	6:51	50	8:00	28%
5/1/2018	67	11:27	1:58	2:29	2	9:00	3%
5/2/2018	89	4:24	0:26	1:07	2	38:00	2%
5/3/2018	72	1:44	0:14	0:00	0	45:00	0%
5/4/2018	64	4:35	0:50	0:06	1	40:48	2%
5/7/2018	85	6:36	0:29	1:06	2	56:00	2%
5/8/2018	105	3:42	0:30	0:57	1	27:00	1%
5/9/2018	171	16:58	2:59	4:53	13	9:00	8%

Source: Questar Assessment Inc.

School Visits

We conducted visits to observe testing and interview test administrators at two Nashville high schools: McGavock High School on May 3, 2018, and Glencliff High School on May 4, 2018. Test administrators at McGavock High School echoed the long call wait times and stated that when they contacted Questar to deal with a student that was not able to log in, they were on hold for one hour with no answers. Test administrators at Glencliff stated that it took an average of one week for Questar to respond to issues via email, and call wait times were long. One of the test administrators stated, “There is no such thing as immediate technical assistance, we are just told to keep trying.” Additionally, we received the following comments on our TNReady survey:

“...the helpline was ridiculous—test time was over and I was still on hold—not to mention the disruption that calling during test time caused.”

“We followed protocol and contacted Questar. We received a response eight days later. The response acknowledged the submission of our question but failed to solve or offer a solution.”

“The services provided to assist with technical difficulties were not effective. I personally was on hold for 25 minutes with the help line. After waiting, I decided to leave a message. When I began to leave a message, the phone hung up. The online help was also disabled.”

“...once we were testing, wait times to ask questions were from 15 minutes upwards to 55 minutes. That is a long time for a student to sit waiting to resume.”

Wait Times Prior to the Testing Window

On May 30, 2018, we contacted Questar’s Vice President of Education Services, who acknowledged that Questar was not adequately staffed for a “catastrophic event,” which she defined as receiving several hundred calls before 10:00 a.m. She also stated that on a “normal” test day, Questar staffing was adequate to handle call, chat, and email volume, which she estimated at around 200 calls per day. Based on the daily webinars leading up to the testing window, however, it appears that districts were experiencing long wait times before any problems occurred. During an April 12, 2018, daily webinar (4 days prior to the start of Tennessee’s testing window), Questar’s Vice President of Tennessee Assessment Programs stated,

I know many of you have experienced longer than normal wait times over the last week and I want you to know that that is something that is not okay with us and clearly not okay with you, either, and so we are going to be doing some things to address that.

In response to long wait times going into the testing window, he stated that Questar was adding additional staff to take calls and it was also activating the “tactical operations center” in Minnesota to reduce wait times and to reduce time to resolve customer support cases. Despite these additional resources, Questar still did not have the ability to “ramp up” its customer support response to

widespread testing issues and a large number of districts calling in at once.

As noted above, the contract described the types of customer service had to be available; however, it did not contain acceptable wait times for customer support calls. Even though this is not defined in the contract, testing issues that arose during test administration required much shorter wait times than one hour, especially when students and test administrators were waiting until Questar resolved the issue or provided further guidance.

During the testing window, when issues need quick resolution, call wait times up to one hour intensify frustrations among students, teachers, and test administrators. Callers seeking help are more likely to abandon the call out of frustration during the active test even though they have problems that Questar should address.

Department's Contract Amendment Regarding Questar Customer Support Tracking

Over the course of our audit, the Department of Education worked with Questar to amend their contract to address some of the issues that arose during the spring 2018 test administration. The Commissioner signed the contract amendment into effect on October 1, 2018. This amendment includes key performance indicators (KPI) to measure Questar's performance against desired outcomes. KPIs identify the performance category, metrics, and documentation required to measure performance. The department addressed the customer support issues with a KPI that measures average and maximum wait times by phone or chat during call center hours; email and voicemail response times; and issue resolution within a certain number of days. Based on our review of the contract amendment, the contract language adequately addresses the call center issues. Because our audit fieldwork ended October 31, 2018, Questar's performance under the contract amendment was not part of this audit scope.

Recommendation

Department leadership should work with Questar and future vendors to establish clear benchmarks for acceptable customer support experiences. These benchmarks should address both call wait times and time to resolution. These benchmarks should be included in the contract or in the Work Plan, and the department should hold the vendor accountable for meeting them. Additionally, the department should work with Questar and future vendors to establish a process to determine if customer support is appropriately staffed to ensure call wait times are acceptable and callers receive resolution to their questions and issues.

Management's Comment

We concur that the call center was not up to department standards of ensuring districts receive timely, accurate answers. During a statewide assessment, districts often need to receive answers to questions immediately to enable them to take action, and the call center was one of several ways through which districts could receive immediate answers.

The department views customer service as a broad spectrum of support activities, starting with successfully delivering training prior to the testing window, as it did throughout the 2017-18

year. The department also worked with the vendor to manage adherence to the contract's customer service requirements in spring 2018. Additionally, several steps were taken by the department ahead of operational testing to exceed the minimum contractual obligation in improving the overall customer service experience for districts, including providing feedback to the vendor's customer service staff on the quality of customer service, traveling to vendor headquarters to meet with vendor customer service management, and providing feedback on the vendor's plan of customer support.

Further, the department offered the following customer service avenues on top of the vendor's call center:

- Daily webinars for district test coordinators each day of the testing window at 2:30 p.m. CT
- An open call-in line that was staffed jointly by the department (Assessment Logistics Team and District Technology Team) and the vendor in order to provide time-sensitive answers to questions related to assessment administration or major district technology issues
- Time-sensitive, assessment-related text message alerts via the Remind system
- Support for non-urgent matters through dedicated department email accounts
- A clear communication plan for the spring 2018 assessment, which was shared numerous times directly with directors of schools

As reported in this finding, the amended contract language addresses the call center issues. In the contract amendment, the department has established key performance indicators for maximum wait times, response times, and resolution times. These key performance indicators explicitly tie our customer service expectations to their compensation and will be included in future assessment RFPs.

As part of continuous improvement, the department is providing additional training, resources, and clarified communication pathways to assist districts in timely resolutions.

TEST RECOVERY COMMUNICATION

General Background

District and school testing administrators can view student testing progress in the Nextera Admin application to determine which students have not started testing, which students are in the process of testing, and which students have completed testing. In some situations, school districts may experience student testing issues that require the testing administrators to recover a student's test answers so that they may be uploaded into Nextera's Secure Browser. By knowing the status of a student's testing progress, district and school testing administrators can initiate the test recovery process when needed so that all students' assessments are properly uploaded.

Education of and Communication to Testing Administrators

During the spring 2018 TNReady testing, some students were unable to submit their tests on Nextera's Secure Browser due to issues with the local device,²⁷ local connectivity, infrastructure, or the internet. To assist district and school administrators with recovering student tests, the Department of Education and Questar communicated test recovery instructions through multiple methods with the school districts during the April 16 through May 9, 2018, spring testing window:

- *Remind app* – Remind is a free messaging application for educators that the department used to send assessment-related text message alerts to districts who opted in to receive the alerts.
- *EdTools messages* – The department also sent messages via EdTools, which is the online system that teachers and administrators use to build class rosters, claim students, and view “quick” (or preliminary) assessment scores.
- *Questar customer support* – Questar offered technical support for the Nextera platform by phone, email, and chat.
- *Open bridge line* – The department and a Questar representative staffed a daily open conference line to provide school districts with time-sensitive answers to questions related to testing administration or major district technology issues.
- *Daily webinars* – The department and Questar jointly hosted daily webinars each afternoon of the testing window for district testing administrators to review any common challenges and to address any questions.
- *EdTools support tickets and the department's assessment email* – School districts had the option to communicate non-urgent matters with testing to the department through the EdTools support ticket system. Districts could also communicate with the department through TNEd.Assessment@tn.gov and dt.support@tn.gov emails.
- *LiveBinders site* – The department's assessment staff provided additional guidance through the test administration manuals and Nextera user guides, which were posted to the LiveBinders site, which is a website that the department's Assessment staff used to organize and disseminate guidance, documents, and other assessment materials to testing administrators, district and school employees, and educators across the state. Recordings, PowerPoints, and Q&A summaries from the daily webinars were also posted on LiveBinders.

Test Recovery Process

If a student could not submit a test for any reason, the test answers should have been stored in a cache file²⁸ on the student's local device. The department instructed school districts, through training workshops, EdTools messages, and daily webinars, to have students log back in to the Secure Browser and attempt to submit their tests if they had been unable to do so

²⁷ A local device is an electronic device, such as a desktop, laptop, or tablet, that students can use to test online.

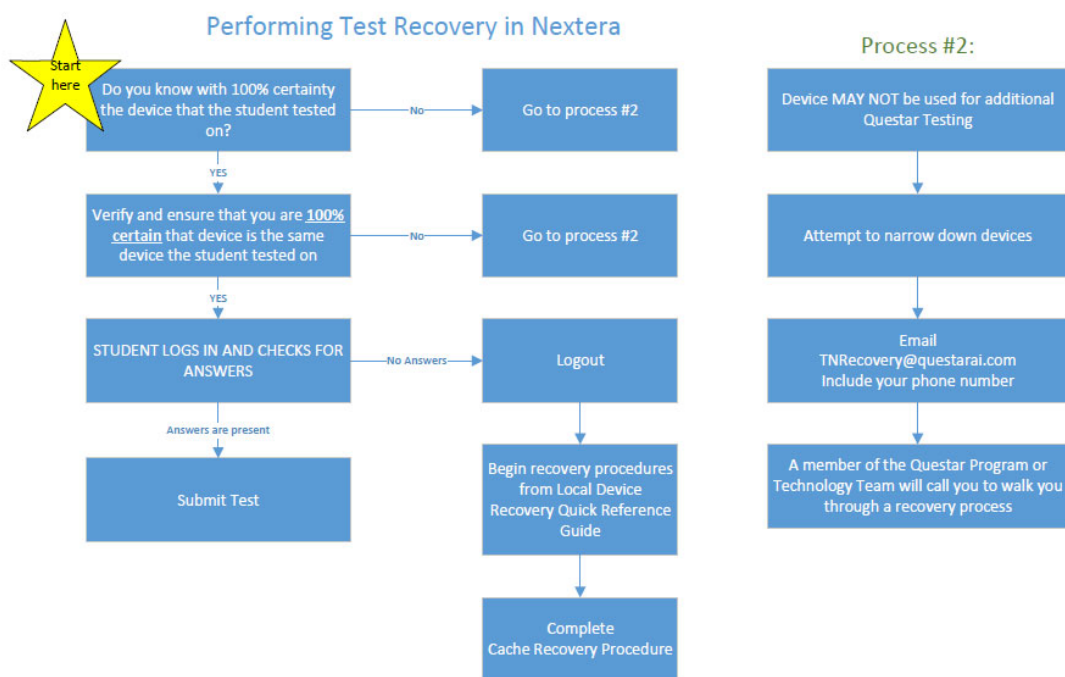
²⁸ A cache file is a file of data that is stored on a local device.

earlier due to lost connectivity. In some cases, students could not submit their test responses because the students could not see their test answers on the test, requiring testing administrators to initiate the test recovery process.

To retrieve the cache file from the local device and submit it to Questar, test administrators had to log in to the Secure Browser on the device the student used to take the test and complete the local device recovery procedure.²⁹ They then had to wait for Questar to process the cache file and assign the student a new test session before the student's test responses would reappear in the Secure Browser and in Nextera Admin.

Once Questar recovered the test responses, students were supposed to log in and verify that Questar successfully recovered their answers and then resume testing or submit their completed tests. The department instructed districts who needed assistance with this process to contact Questar customer support for assistance. The department posted a flowchart to LiveBinders to help districts understand this process. See **Figure 3**. At the beginning of the testing window, Questar communicated via the daily webinars that it would take between 24 and 48 hours for student responses to be visible in the Secure Browser once the local device recovery procedure was completed. As testing continued during the window and more students were unable to upload their tests, Questar needed additional time to recover test files.

Figure 3
Performing Test Recovery in Nextera Flowchart



Source: The Department of Education's LiveBinders site.

²⁹ The 2018 Nextera User Guide included a section that walked test administrators through the process to recover student responses on a local device. The process required administrators to log in to Nextera on the local device the student tested on, navigate to the Recovery Tools page, enter the student's information, and submit the recovery data to Questar for processing.

Finding 4 – The department did not ensure that Questar had an adequate process in place to track, document, and provide status updates to districts to let them know when to expect their students’ tests to be recovered, leaving schools unaware if their students completed the required tests

To ensure students can complete and submit their completed tests, the Department of Education and Questar have a process in place to react and respond to student testing issues. Based on our review of all daily webinars, we found that for the 2018 testing window, districts were experiencing delays with the test recovery process because of the volume of requests Questar received. According to the department, school districts reported 5,088 instances that required test recovery out of 2,380,560 total submitted tests. While statistically this represents about 0.2% of all submitted tests, we cannot minimize the effect this process had on individual student and teacher experiences.

“I had one student, on the writing part that had completed the test. It would not submit, and later we could not find her work. Not sure if it was recovered or not.”

-Tennessee teacher, in a TNReady survey comment

Based on discussions in a meeting we attended with the department leadership and Questar, we learned that Questar performed some test recoveries after the close of the spring testing window; as a result, school testing administrators could not determine if students completed the required tests.

We asked Questar to provide the number of the test recoveries districts submitted each day of the testing window so that we could determine how long it took Questar to process each request and identify any delays in the process. Questar responded that it could not provide detailed daily request information due to the volume of requests it received and because districts submitted test recovery requests in multiple ways (for example, through Questar customer support; individual departmental communications with districts; the department’s hotline; and Questar Local Assistance, Support, and Readiness field system engineers who were available around the state during the testing window to assist districts.). Questar could only provide us with aggregate recovery statistics based on the number of files it recovered. As a result, we were unable to determine the length of time it took Questar to complete all test recoveries once districts submitted them.

Test Recovery Delays

We reviewed the department’s daily webinars and EdTools messages to districts for any communications related to test recovery delays. We found that Questar’s initial communications indicated that student test data would take between 24 and 48 hours to become visible in Nextera; however, the communicated timeline grew to 72 hours due to the volume of requests received, but neither the department nor Questar could tell districts the date the students could expect to see their test answers.

According to Questar, the primary reason for the delays in the test recovery process was the unanticipated volume of requests. The department’s Assistant Commissioner of Accountability, Assessment, and Data Governance stated that some of the delays occurred

because, although the testing administrators were told to do so, they did not keep track of which computer each student used, making the test recovery even more difficult.

Impact on Teacher and Students

In our survey, teachers made the following comments:

“I don’t know if students who were kicked out of the system were able to submit their tests, because there was no way to check that.”

“There were many times when the test was submitted but didn’t go through. The teachers later had to go on and manually recover and submit each student’s test, which was a process that took a long time.”

“The platform didn’t properly ‘save’ answers. And in order to recover the answers, it took a lengthy process.”

“Some students were able to successfully submit tests later, but there were a handful of students whose tests would say ‘completed’ for them, but when myself or another test administrator checked their testing status, it still said ‘in progress’. Additionally, some students never had the ‘submit’ button available as an option once they reached the end of the test. In order to mark our school testing status as completed at the end of the testing window, I had to mark those ‘in progress’ students as ‘student did not submit test.’ This is also what I had to do for our students who did not submit because they ran out of time.”

“Some students were able to submit tests at a later date. We do not know if the submission was successful since some students noticed parts of essays and answers missing when they logged back in to submit. Other students did not know they should check to see if their work was still there when they were asked to login and submit. This whole process ruined 4 weeks of school. This testing process interrupts the whole school, not just those students being tested.”

During the testing window, a Questar representative participated in the department’s daily webinar sessions to provide answers to questions and give some updates on the test recovery process; however, based on comments during the webinar sessions, school districts remained confused about the test recovery process because they still did not know if or when Nextera would show their students’ responses. School districts were still requesting information on the status of

“I don’t know if they were able to submit later.”

-Tennessee Teacher, in a TNReady survey comment

their test recoveries well into the third week of testing. As demonstrated by the survey comments and daily webinar sessions, Questar did not adequately communicate the status of each school’s test recoveries to school districts to ensure all students were tested by the end of the testing window.

Department's Contract Amendment Addressing Test Recoveries

Over the course of our audit, the department worked with Questar to amend their contract to address some of the issues that arose during the spring 2018 test administration. The Commissioner signed the contract amendment into effect on October 1, 2018. This amendment includes a new section that addresses test recoveries. The new language is as follows:

A.11.d- "The Contractor shall implement a mechanism for recovering all or partial student work due to the inability to submit or secure browser crash. For the purpose of recovering student work in an event of an unexpected outage, recovery of all Contractor systems shall be completed within the testing administration window for verification of that work and that the status of the recovery shall be visible to the school district that requested the recovery. If cache recovery is needed in the final 3 days of the testing window, the Contractor shall keep the testing administration window open to allow for cache recovery verification to be completed."

Based on our review of the contract amendment, the contract language addresses a new test recovery process. Because our audit fieldwork ended October 31, 2018, Questar's performance under the contract amendment was not part of this audit scope.

Recommendation

Department leadership should enforce the new requirements regarding test recoveries as stated in the contract amendment and should ensure that future assessment vendors have procedures in place to track test recovery requests so that if issues occur in the future, the department has processes in place to react. Such processes include providing status updates and completion notifications to the requesting districts in order for districts to react accordingly.

Management's Comment

For context, of the total number of tests that were taken online in 2017-18, 0.2% of tests had a submission issue that required test recovery. The vendor contract in spring 2018 did not include specific requirements for test recovery to ensure students were still able to submit tests in the event of an unexpected outage, and the test recovery process established by the vendor and their communication around test recovery did not meet the department's expectations.

As the finding indicates, the department has amended the contract by including a specific recovery process to follow in the event of an unexpected outage to better serve the districts and teachers working to administer these assessments. Additionally, the department has provided improved training in 2018-19 to emphasize best practices for handling a situation that necessitates a cache recovery, including using a note to mark a device with a student's name and removing the device from use upon encountering a submission issue, which should better facilitate test recovery.

INFORMATION TECHNOLOGY VENDOR CONTROLS

Background

The Department of Education reported using six information technology (IT) vendors during the audit period for Software-as-a-Service Internet-based applications that supported key business processes. We reviewed the department's process for evaluating and monitoring internal controls over the services provided by one IT vendor that supported the student testing.

Student Testing Application

The department contracted with Questar to develop and maintain the Nextera application, the department's testing platform. For a description of the Nextera platform, see page 16. Tennessee school districts used this system for student testing in the fall 2017 and spring 2018 semesters. The Nextera application software and data are stored and processed in the Cloud at a data center managed by Questar's vendor.

Finding 5 – The department did not adequately evaluate and monitor the internal controls implemented by external information technology service providers

Although internal control standards require it to do so, Department of Education management did not evaluate whether the information technology (IT) vendor implemented internal controls over processing and storing the department's data or whether the controls implemented were designed and operating effectively to ensure the department could properly administer student testing by the Software-as-a-Service (SaaS) application. Department management did include in its department-wide risk assessment the risk of not obtaining and assessing internal controls at third-party SaaS hosting vendors, but management did not establish controls to mitigate the identified risk.

Except as noted below, management did not consistently evaluate internal controls either internally or by obtaining and reviewing an independent audit report, such as a System and Organization Controls (SOC) audit report, which would adequately describe the IT vendor's internal controls and the auditor's opinion regarding the effectiveness of controls. SOC audits are completed by Certified Public Accountants in accordance with American Institute of Certified Public Accountants standards and are applicable to service organizations such as the IT vendor. The SOC 1 Type 2 and the SOC 2 Type 2 reports provide the most information to management and other auditors regarding the design and effectiveness of internal controls. The former focuses on internal control over financial reporting, and the latter focuses on data security, availability, processing integrity, confidentiality, and/or privacy.³⁰

³⁰ We also examined management's review of IT vendors' controls over processing and storing the department's data relating to IT applications used to administer federal programs on the 2017 Single Audit. See the report on http://www.comptroller.tn.gov/repository/SA/2017_TN_Single_Audit.pdf. We reported two findings: Finding 2017-004 on page 28 and Finding 2017-064 on page 442. We will follow up on these findings during the 2018 Single Audit.

Nextera

For the Nextera platform, department management described its efforts to ensure that student testing was successful, which included working closely with Questar in assessment design and test delivery. However, Questar did not have a SOC audit report that applied to the audit period, and department management did not review a SOC audit report that was available from Questar's data center vendor.

Criteria

The U.S. Government Accountability Office's *Standards for Internal Control in the Federal Government* (Green Book) provides a comprehensive framework for internal control practices in federal agencies and serves as a best practice for other government agencies. According to Sections 3.09 through 3.11 of the Green Book,

Management develops and maintains documentation of its internal control system.

Effective documentation assists in management's design of internal control by establishing and communicating the who, what, when, where, and why of internal control execution to personnel. . . .

Management documents internal control to meet operational needs. Documentation of controls, including changes to controls, is evidence that controls are identified, capable of being communicated to those responsible for their performance, and capable of being monitored and evaluated by the entity.

Best practices in the National Institute of Standards and Technology's Special Publication 800-53 (Rev. 4), *Security and Privacy Controls for Federal Information Systems and Organizations*, Chapter 2.5, "External Service Providers," explains that "organizations are responsible and accountable for the information security risk incurred by the use of information system services provided by external providers." Additionally, Section RA-3, "Risk Assessment," states that, "risk assessments also take into account risk from external parties (e.g., service providers, contractors operating information systems on behalf of the organization, individuals accessing organizational information systems, outsourcing entities)."

Furthermore, Section 3.1, "Security Management," of the *Federal Information System Controls Audit Manual* states that "appropriate policies and procedures should be developed, implemented, and monitored to ensure that the activities performed by external third parties (for example, service bureaus, contractors, other service providers such as system development, network management, and security management) are documented, agreed to, implemented, and monitored for compliance."

Department's Contract Amendment Language Addressing IT Vendor Controls

On September 20, 2018, the state's Procurement Commission approved updated contract language for third-party SaaS vendors that requires vendors to provide the department with SOC

audit reports. However, because this language was not required when the department executed the contracts with Questar, the state's Central Procurement Office and the department did not include language in the contracts that required an independent audit of the IT vendors' internal controls. Additionally, the department's procedures did not provide for an adequate review of the IT vendors' internal controls to ensure they were appropriately designed and operating effectively, both prior to awarding the contract and on an ongoing basis.

Effect

By not obtaining a sufficient understanding of the control environment operated by IT vendors, including internal control deficiencies that may be present, the department is subjected to a higher risk of error, fraud, or loss of data resulting from poorly designed or nonexistent internal controls, such as contractual requirements to mitigate those risks. SOC reports will identify any complementary user entity controls that a service organization expects its customers to implement to achieve the control objectives specified in the SOC report. Consequently, the department cannot ensure it has adequate internal controls implemented over certain business processes if management is not made aware of complementary user entity controls.

The department identified in its most recent organizational risk assessment the risk associated with outsourced information system service providers not providing SOC audit reports. According to the department's risk mitigation strategy documented in the risk assessment, the department would require all new contracts and contract amendments to require SaaS vendors to provide the department with an SOC report that covered the information system services provided by that vendor.

Recommendation

The department should ensure that internal controls related to its applications are appropriately designed and operating effectively, including internal controls implemented by external information technology service providers. The department should use contract language established by the Central Procurement Office for SaaS vendors and require that these vendors provide department management with SOC audit reports for any applications supporting key business processes. Management should actively review these SOC reports and design and implement applicable user entity controls.

Management's Comment

We concur that having appropriate controls over a third-party vendor is an important part of ensuring success for a particular program. Similarly, the department acknowledges that in many cases a SOC2 Type II report has value in gaining some confidence that a vendor has appropriate internal controls in place. However, as indicated in the finding, contractual language requiring third party contractors to provide a SOC report was not passed by the procurement commission until September 20, 2018, well after the execution of this testing contract.

Regardless, the SOC certification is one of many different types of certifications available in the software industry and has more applicability to some areas of information technology than

to others. In general, a SOC report is most commonly obtained by a vendor that delivers a service through repeated procedural actions, such as: a private data center, cloud service provider, or self-hosting software as a service vendor. A SOC report is generally not as effective in organizations that engage in non-repetitive or research-centric activities, such as a software developer. In these organizations, the Software Development Lifecycle (SDLC) controls are more applicable.

In this particular case, the data center used by the vendor does have a SOC2 Type II report. However, our direct testing vendor – more akin to a software developer – does not. Instead, the department took steps to observe that the SDLC procedures were followed. Unfortunately, no documentation can guard against a vendor who ignores their own documented processes.

APPENDICES A

APPENDIX A-1 Assessment Testing in Tennessee

A Chronological Progression of Assessment Testing in Tennessee Prior to TNReady

Tennessee has been conducting testing at the state level since 1936 when the State Testing and Evaluation Center was established on the University of Tennessee campus. In the 1970s, higher education and business representatives complained that Tennessee high school graduates possessed low skills and knowledge levels, questioning the validity of grades and course completion as accurate measures of student achievement.

1981 – Tennessee Proficiency Test

In 1981, the General Assembly passed legislation establishing the state’s first high school graduation exam, the Tennessee Proficiency Test. Beginning in the spring of 1983, the state required students to pass the test before graduating with a regular diploma. This test assessed high school students’ knowledge in mathematics, language arts, and reading. Proponents of graduation exams, arguing

“Assessment is an integral part of education in Tennessee. Since 1983, Tennessee has used summative tests to provide important information about the collective progress of students in our state.”

- Tennessee Task Force on Student Testing and Assessment, September 2015

diplomas were based more on “seat time” than true academic achievement, believed that these exams provided an external assessment (administered outside of school and classroom control) that would provide a more valid measure of student academic performance. As a result, Tennessee and other states refocused their school curriculum and set minimum course requirements for graduation, including minimum competency graduation exams.

1992 – Education Improvement Act

On March 11, 1992, the Tennessee General Assembly passed a major education reform initiative—the Education Improvement Act (EIA)—which mandated significant changes for students, teachers, and schools. One of the EIA’s most important sections described the state’s plans to hold educators (districts, schools, and teachers) accountable for their performance. This accountability section featured

- a management information system,
- changes in the student testing programs,
- extensive public reports,
- a method of determining improvement goals, and
- a statistical system to monitor student progress.

The primary component of the EIA's accountability section is the Tennessee Value-Added Assessment System (TVAAS).

TVAAS uses a complex statistical model to evaluate the performance of districts, schools, and teachers by measuring the change in achievement from year to year (growth), or the added value of a given year of instruction and its effect on test scores. The EIA required that all tests used in TVAAS "shall be fresh, nonredundant equivalent tests, replaced each year." It also required the development of end-of-course examinations for all high school subjects. These end-of-course examinations represented the accountability side of the EIA's balance between increased flexibility and funding and standards and accountability. The EIA specifies that students must pass the assessment tests adopted by the State Board of Education to receive a full diploma upon graduation from high school. Because meeting this requirement would have resulted in end-of-course examinations for 40 to 65 high school subjects, in 1998, the General Assembly allowed the State Board of Education to identify specific high school subjects for end-of-course examinations.

2002 – No Child Left Behind

The federal No Child Left Behind Act of 2001 (NCLB), reauthorizing the Elementary and Secondary Education Act of 1965, was signed into law in January 2002. Standards-based reform is a cornerstone of NCLB. Some of the main tenets of the federal law include

- an emphasis on high standards for all students and on accountability for schools and districts based on improvement gains;
- annual assessments in reading and math in grades 3 through 8 that would provide data to be used in highlighting improvement gains from year to year; and
- assistance and consequences for schools that are not adequately educating their disadvantaged students, which includes alternative forms of school governance if a school fails to improve.

The law increased federal education funds for Tennessee by approximately \$67.3 million, \$6.9 million of which was targeted for state assessments. The Department of Education created a request for proposals (RFP) for the development of a new assessment test for grades 3 through 8. NCLB also required states to test all high school students at least once between grades 10 and 12, mandating high school reading and math testing by 2005–2006, and science testing no later than 2007–2008. Tennessee met this requirement with its previous implementation of end-of-course examinations.

2010 – Common Core State Standards and the Partnership for Assessment of Readiness for College and Careers

In 2008, the National Governors Association and the Council of Chief State School Officers launched the Common Core State Standards initiative to provide a consistent, clear understanding of what students were expected to learn for success in college and careers. The Common Core State Standards were released in June 2010 and were adopted by the Tennessee

State Board of Education in July 2010. Tennessee school districts began phasing in the Common Core standards in school year 2011–2012.

From a consortium of chief education officers from multiple states, including Tennessee, and the District of Columbia, the Partnership for Assessment of Readiness for College and Careers (PARCC) was organized to develop K–12 assessments based on the Common Core standards in math and English Language Arts, and the member states committed to using PARCC assessments exclusively. PARCC assessments were to be computer-based with performance components that shifted away from traditional multiple-choice formats. PARCC states were scheduled to administer the fully operational tests in school year 2014–2015.

In Tennessee, PARCC assessments were scheduled to replace the Tennessee Comprehensive Assessment Program (TCAP) in assessing student achievement in math, reading, and writing in grades 3 through 11; TCAP would continue to be administered for science and social studies. In May 2014, however, Governor Haslam signed into law 2014 Public Chapter 905, which delayed the PARCC assessments for at least one year and stipulated that TCAP be used during the 2014–2015 school year. The chapter also required the department to issue an RFP prior to the 2015–2016 school year to adopt and field test a new assessment instrument.

Federal Requirements for Testing and Tennessee’s Plan

Section 1111(b) of the federal Elementary and Secondary Education Act of 1965, as reauthorized by the Every Student Succeeds Act in 2015, requires each state to provide the U.S. Department of Education (USED) with assurance that the state has “adopted challenging academic content standards, and aligned academic achievement standards . . . that will be used by the state, its local educational agencies, and its schools to carry about this part.” In subparagraph (A) of this section, the standards

- (i) apply to all public schools and public school students in the State; and
- (ii) with respect to academic achievement standards, include the same knowledge, skills, and levels of achievement expected of all public school students in the State.

Section 1111(b) also requires states to establish “such academic standards for mathematics, reading or language arts, and science, and may have such standards for any other subject determined by the state.”

The Department of Education set forth its plan and submitted the current Tennessee’s Every Student Succeeds Act (ESSA) State Plan, which USED

Tennessee TNReady Plan for Every Student Succeeds Act

Subject tests for grades 3 through 8:

- Math,
- Science,
- English Language Arts, and
- Social Studies.

High school end-of-course examinations:

- English 1,
- English 2,
- English 3,
- Chemistry,
- Biology 1,
- US History,
- Physics 1,
- Mathematics Track 1:
 - Algebra 1,
 - Algebra 2, and
 - Geometry, or
- Mathematics Track 2:
 - Integrated Math 1,
 - Integrated Math 2, and
 - Integrated Math 3.

approved on August 14, 2018.³¹ The plan, required as part of the state’s application for federal funding under ESSA, defines the state’s statewide assessment standards, including the requirements for assessments in math,³² science, English language arts, and social studies for grades 3 through 11. According to Tennessee’s ESSA plan, the state requires testing beyond the minimum required for federal funds. Specifically, ESSA requires states to test math and English language arts in each of the grades 3 through 8 and at least once in grades 9 through 12. Additionally, it requires science to be tested at least once in these three grade bands: 3 through 5, 6 through 9, and 10 through 12. Other subjects are left to the states to decide. Tennessee, as shown in the graphic and in Tables 5 and 6 in **Appendix A-1**, tests more frequently than is required for math, English language arts, and science, and it also requires social studies assessments in grades 3 through 11.

TNReady – Design

TNReady was designed to measure higher expectations and critical thinking skills of Tennessee students to ensure continued alignment to Tennessee’s college and career ready state standards. At each grade level, the subject tests (math, English language arts, social studies, and science) include multiple subparts, which are intended to provide scheduling flexibility to districts but which also create complexity in administering the test because there are more tests to schedule.³³ Additionally, TNReady is not simply a multiple-choice test. It includes a variety of question and answer formats, such as

- **Multiple choice** – Students have four answer choices, only one of which is correct.
- **Multiple select** – These questions have more than four answer choices and multiple correct responses.
- **Writing prompt** – Students must write a response of specified length in response to a prompt.
- **Editing task** – A short passage contains embedded errors, with parts of the passage underlined. These sections of underlined text appear as multiple choices, for which the student is asked to select the correct revision or indicate that “no change” is needed.
- **Two-part multiple choice (evidence-based selected response)** – These questions have two parts, A and B, where students choose the textual evidence in Part B that supports or elaborates on the correct answer in Part A. A student earns two points by answering both Parts A and B correctly. A student earns one point by answering Part A correctly even if he or she misses Part B. A student earns zero points if he or she answers Part B correctly but misses Part A.

³¹ The Tennessee Department of Education originally received approval of its ESSA plan on August 30, 2017. In light of the issues involving TNReady in April 2018, the department submitted a revised plan that USED approved on August 14, 2018. The state’s ESSA plan can be found at <https://www2.ed.gov/admins/lead/account/stateplan17/tnconsolidatedstateplanfinal.pdf>.

³² If an 8th grader takes Algebra I, the student must take the Algebra I end-of-course examination in lieu of the 8th grade math assessment. Additionally, for high school end-of-course math exams, students take the appropriate end-of-course examination based on their chosen track.

³³ For example, a school scheduling 4th grade language arts must schedule four subparts, or four tests, for each student.

- **Technology-enhanced items (TEI)** – These items, currently in development for TNReady, include “hot text/hot spot” items, in which students can use their cursor to select the correct text or regions of a map, and “drag and drop” items, in which students click and drag answers to the appropriate question response area.
- **Fill in the blank** – Students must provide their mathematical solution to a problem.
- **Graphing** – Students are asked to provide a graphical representation on a number line or on a coordinate plane.

The complexities of the question and answer formats, such as two-part multiple choice, in which one answer is dependent on another, require special coding considerations by the TNReady online platform vendor. The vendor must also address scoring implications, as some items, such as graphing or fill in the blank, must be hand scored.

Other Required Assessments

Types of Assessments

Diagnostic Assessment – Often given at the beginning of the school year, this assessment allows teachers to know where each student is beginning in their understanding of the subject.

Formative (Interim, Benchmark) Assessment – This measures student learning throughout the year so educators can determine if students are making progress and how best to adjust instruction.

Summative (Annual) Assessment (*TNReady is a summative assessment*) – This measures student learning at the end of the semester or year; state-level assessments are summative assessments administered to all Tennessee students.

National Assessments

In accordance with Section 49-6-6001(b), *Tennessee Code Annotated*, 11th graders must participate in the **ACT or SAT** assessment, which measures college readiness and determines HOPE scholarship eligibility.³⁴

Additionally, every two years, the National Center for Education Statistics selects a sample of Tennessee students in grades 4, 8, and 12 to participate in the **National Assessment of Educational Progress (NAEP)**, which is also called the Nation’s Report Card. Tennessee has participated in the NAEP since 1992; however, all schools that receive Title I, Part A funds are required by federal law to participate. NAEP measures Tennessee student achievement compared to the achievement of students in other states in various subject areas, such as arts, civics, economics, geography, mathematics, reading, science, technology and engineering literacy, U.S. history, and writing. Because all 50 states administer the NAEP exam, it allows Tennessee to compare the educational outcomes of Tennessee students against students in other states.

³⁴ To be eligible for a HOPE scholarship, Tennessee students must, among other things, achieve a minimum 21 ACT or 1060 SAT score or have an overall grade point average of 3.0.

District Assessments

In addition to state-required TCAP and national assessments, students also participate in an assortment of district assessments, which vary in both the number of assessments and the administration time in each district. These can include a variety of quarterly benchmark or interim assessments to measure students' mastery of specific standards as districts track student progress in anticipation of annual statewide assessments. Practices on the frequency and length of these types of assessments vary district by district.

Test Length

Table 5
State Required Achievement Tests in School Year 2017–2018
Grades 3 Through 8 by Subject, Subpart, and Time
(in minutes)

Grade and Subject		Subpart 1	Subpart 2	Subpart 3	Subpart 4	Total
Grade 3	English Language Arts	80	43	43	50	216
	Math	45	30	40	N/A	115
	Science	50	N/A	N/A	N/A	50
	Social Studies	50	N/A	N/A	N/A	50
	Total Grade 3 Test Time					431
Grade 4	English Language Arts	80	45	45	52	222
	Math	45	30	40	N/A	115
	Science	50	N/A	N/A	N/A	50
	Social Studies	50	N/A	N/A	N/A	50
	Total Grade 4 Test Time					437
Grade 5	English Language Arts	80	40	40	40	200
	Math	45	30	40	N/A	115
	Science	48	47	N/A	N/A	95
	Social Studies	50	50	N/A	N/A	100
	Total Grade 5 Test Time					510
Grades 6–8	English Language Arts	85	50	50	45	230
	Math	40	35	50	N/A	125
	Science	48	47	N/A	N/A	95
	Social Studies	50	50	N/A	N/A	100
	Total Grades 6–8 Test Time					550

Source: *Spring 2018 Tennessee Comprehensive Assessment Program Test Administration Manual*.

Table 6
State Required Achievement Tests
High School End-of-course Examinations by Subject, Subpart, and Time
(in minutes)

Subject³⁵	Subpart 1	Subpart 2	Subpart 3	Subpart 4	Total Time
English 1	85	50	50	45	230
English 2	85	50	50	45	230
English 3	85	50	50	45	230
Chemistry	75	N/A	N/A	N/A	75
Biology 1	75	N/A	N/A	N/A	75
U.S. History	50	45	45	N/A	140
Math (2 Tracks)					
<i>Track 1</i>					
Algebra 1	35	50	60	N/A	145
Algebra 2	35	50	60	N/A	145
Geometry	35	50	60	N/A	145
<i>Track 2</i>					
Integrated Math 1	35	50	60	N/A	145
Integrated Math 2	35	50	60	N/A	145
Integrated Math 3	35	50	60	N/A	145

Source: *Spring 2018 Tennessee Comprehensive Assessment Program Test Administration Manual*.

³⁵ According to management, the Physics 1 test has not been developed yet.

APPENDIX A–2

PROBLEMS EXPERIENCED BY STUDENTS AND DAILY EVENT AND COMMUNICATION TIMELINES

Table 7
Nextera Problems Experienced by Students by Day
April 16 Through April 30, 2018

Date	Event
Monday, April 16, 2018	Nextera Login Issues – Students could not log into Nextera to take tests; if students did log in, some lost connectivity or got kicked out; they also experienced latency issues. ³⁶
Tuesday, April 17, 2018	Nextera Network Overwhelmed – Students lost connectivity and/or could not submit tests in the morning (if they started a test). Some districts reported that students “lost” their testing progress, and some teachers could not access the administration portion of Nextera to monitor student testing completion during this time.
Wednesday, April 18, 2018	<i>No significant issues reported.</i>
Thursday, April 19, 2018	Questar Maintenance – Logins were slow—some students could not log in, while others were not able to submit answers or tests.
Friday, April 20, 2018	<i>No significant issues reported.</i>
Monday, April 23, 2018	<i>No significant issues reported.</i>
Tuesday, April 24, 2018	<i>No significant issues reported.</i>
Wednesday, April 25, 2018	Custom Rostering Issue –All custom rosters created for Tennessee schools were reset; the schools or Questar had to re-create or reload the custom rosters. ³⁷
Thursday, April 26, 2018	ENA [Education Networks of America] Fiber Line Cut – This caused widespread Internet connectivity issues across southcentral and east Tennessee. ³⁸
Friday, April 27, 2018	<i>No significant issues reported.</i>
Monday, April 30, 2018	Nextera Latency Problems – This resulted in reported problems with students logging in to take tests and with submitting tests.
Tuesday, May 1, 2018	The Department of Education and Questar disabled text-to-speech (TTS) functionality on the Nextera platform. See page 34 for more information about TTS and its impact on Nextera’s performance.

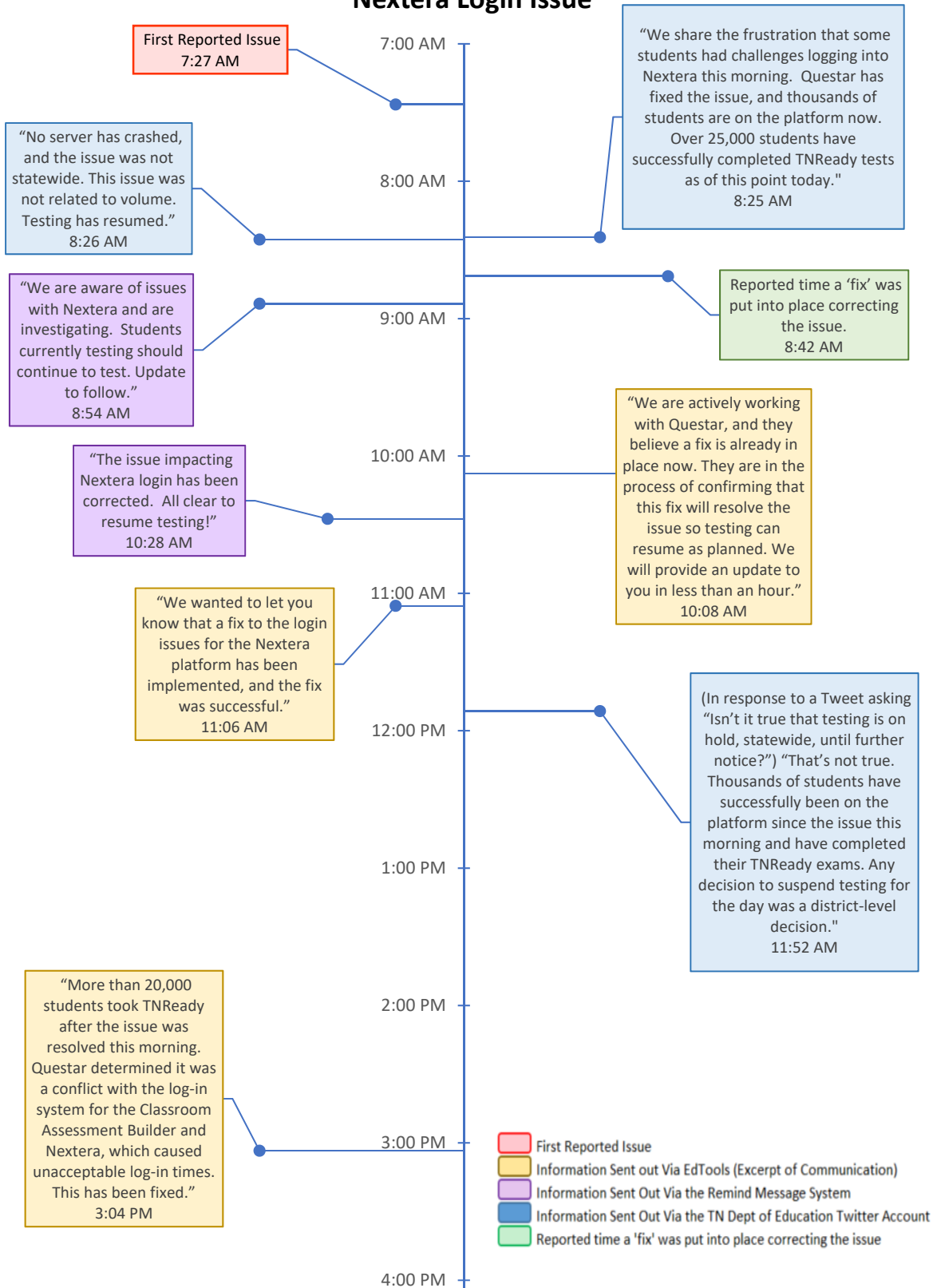
Source: Department of Education and Questar management and media reports.

³⁶ Latency (or network latency) is the term used to indicate any kind of delay that happens in data communication over a network.

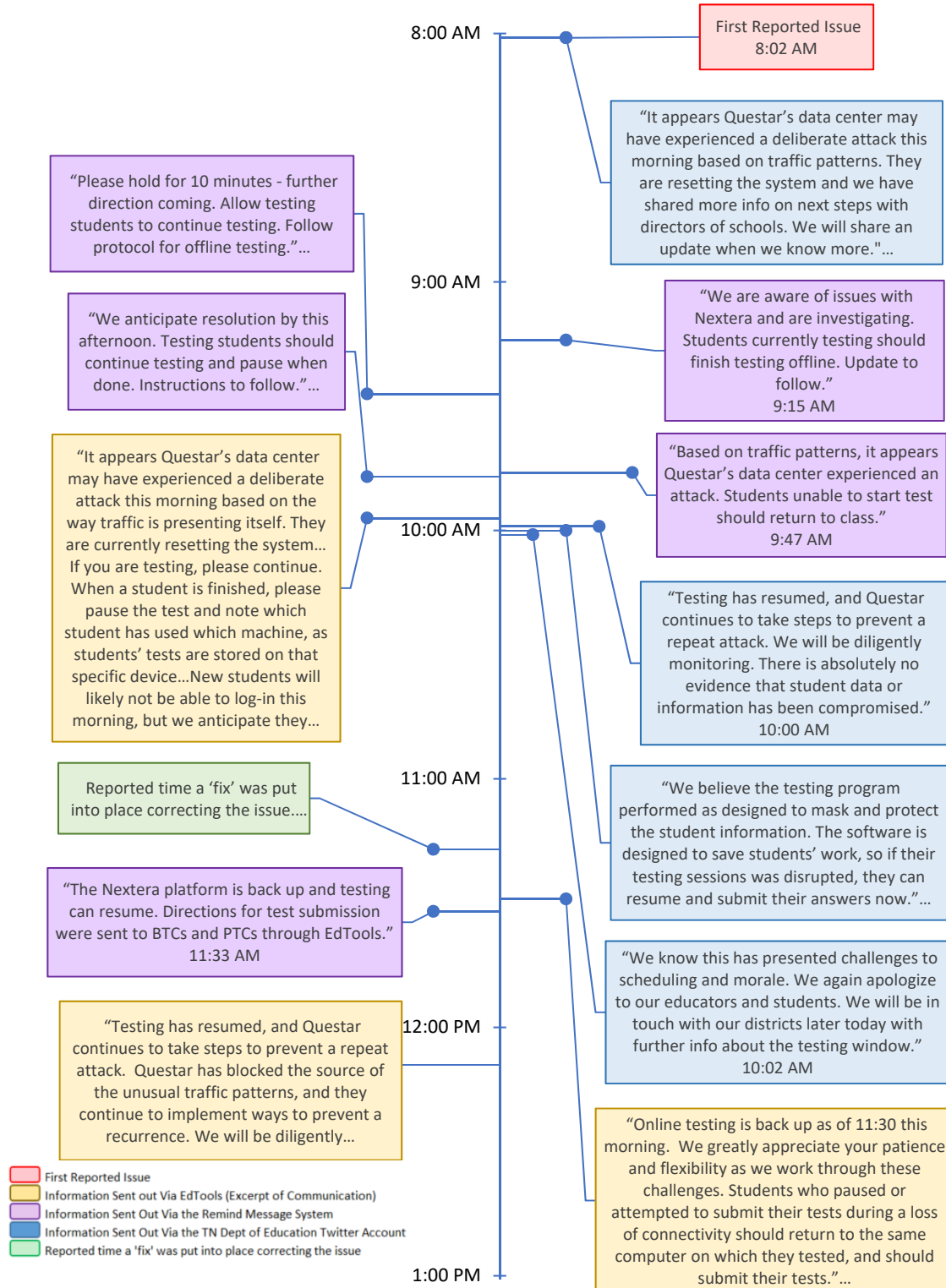
³⁷ Teachers have to create custom student rosters in Nextera to allow students to take tests that are proctored by someone other than the student’s assigned teacher. This issue impacted test administration and planning, not the student testing experience.

³⁸ ENA is an Internet service provider to school districts in Middle and East Tennessee.

Monday, April 16, 2018 Nextera Login Issue

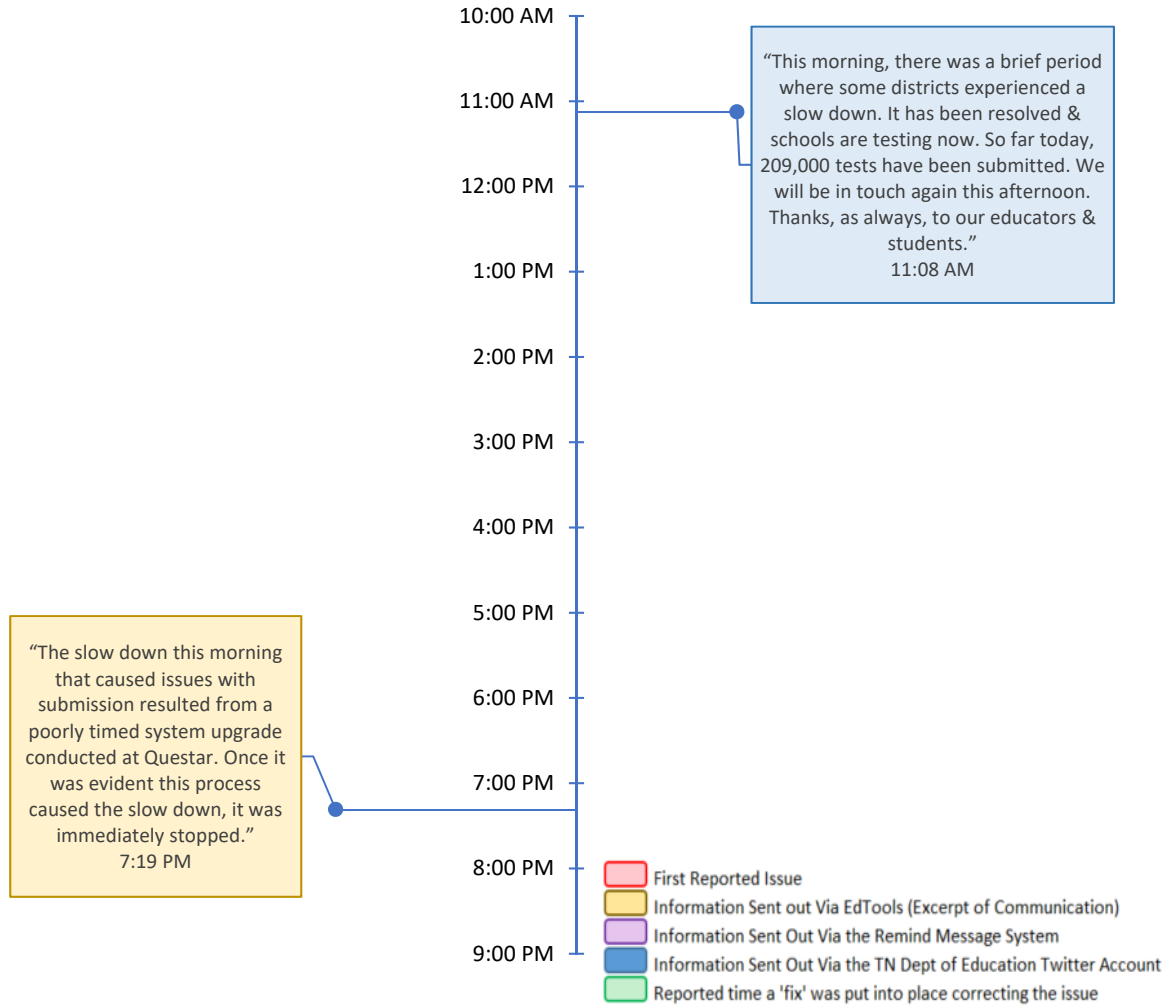


Tuesday, April 17, 2018 Nextera Network Overload

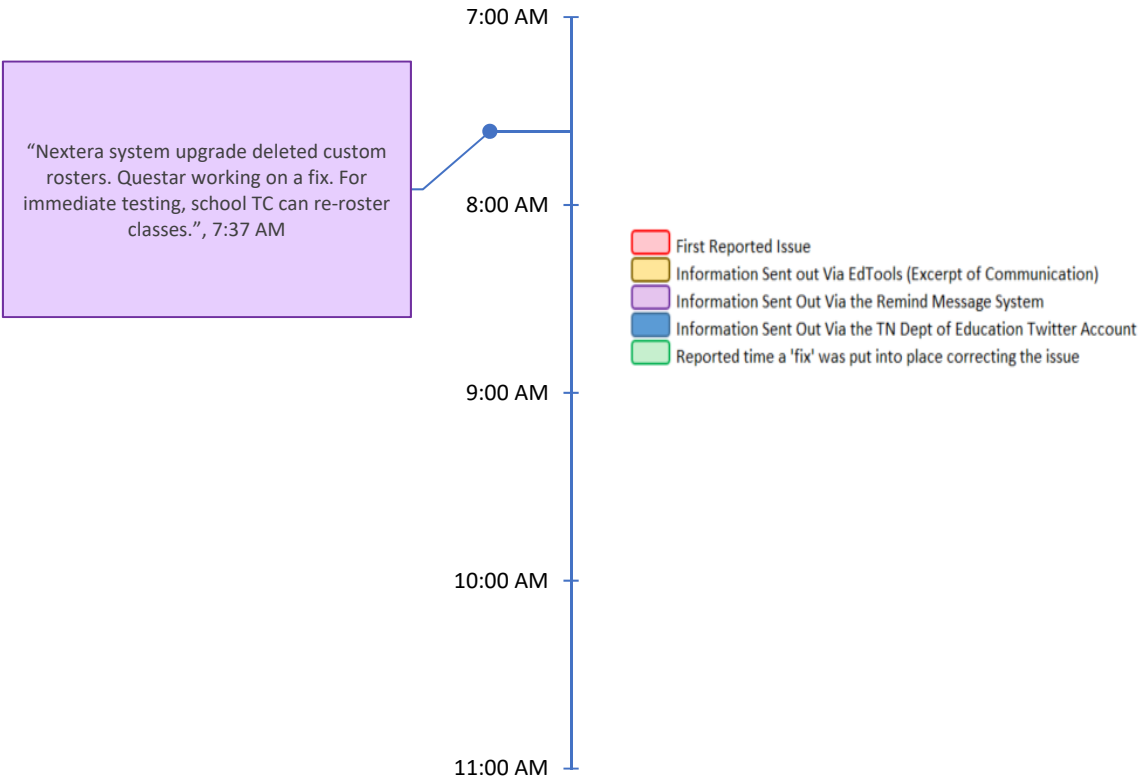


Note: BTC stands for building test coordinator and PTC stands for primary test coordinators.

Thursday, April 19, 2018 Questar Maintenance Issue



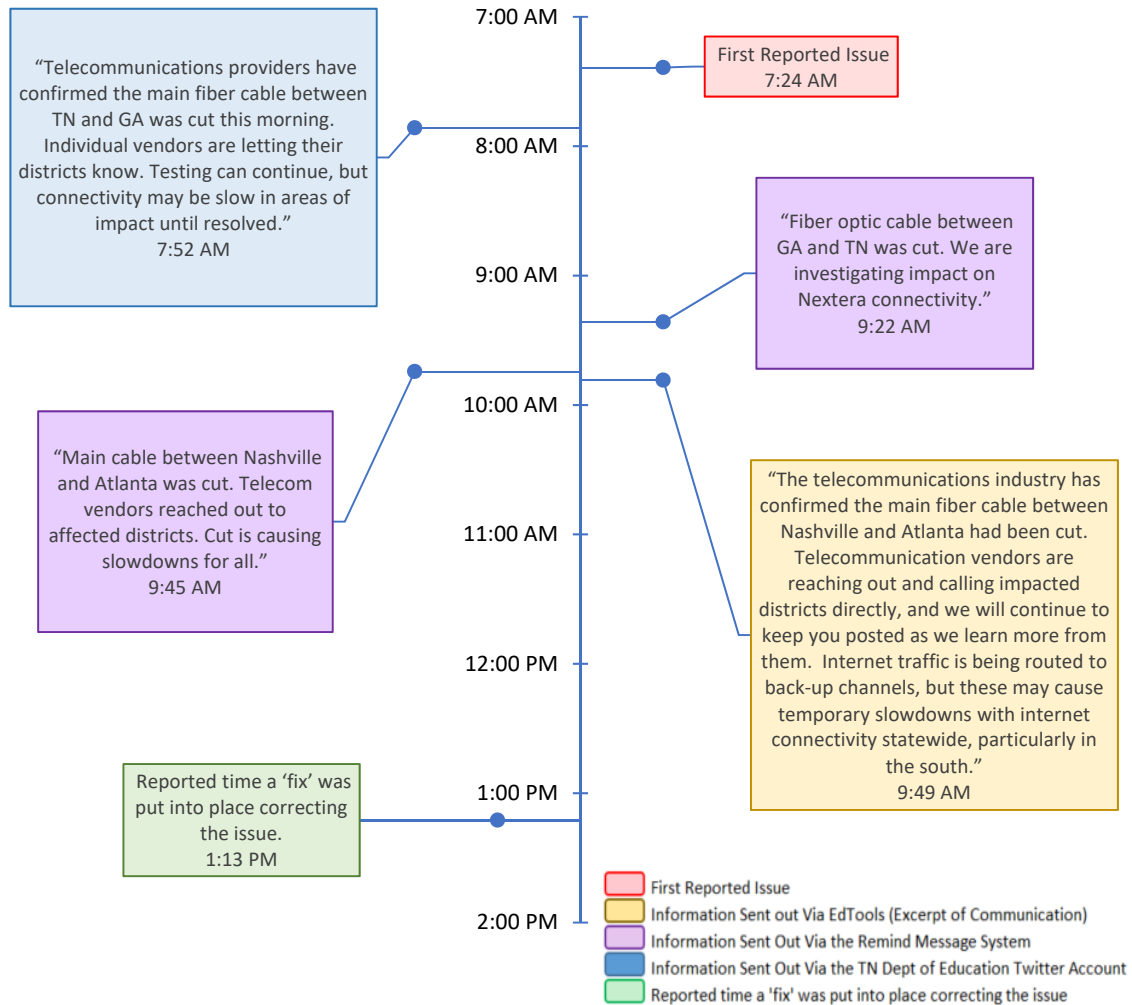
Wednesday, April 25, 2018
Custom Rosters Lost



Note: TC stands for test coordinator.

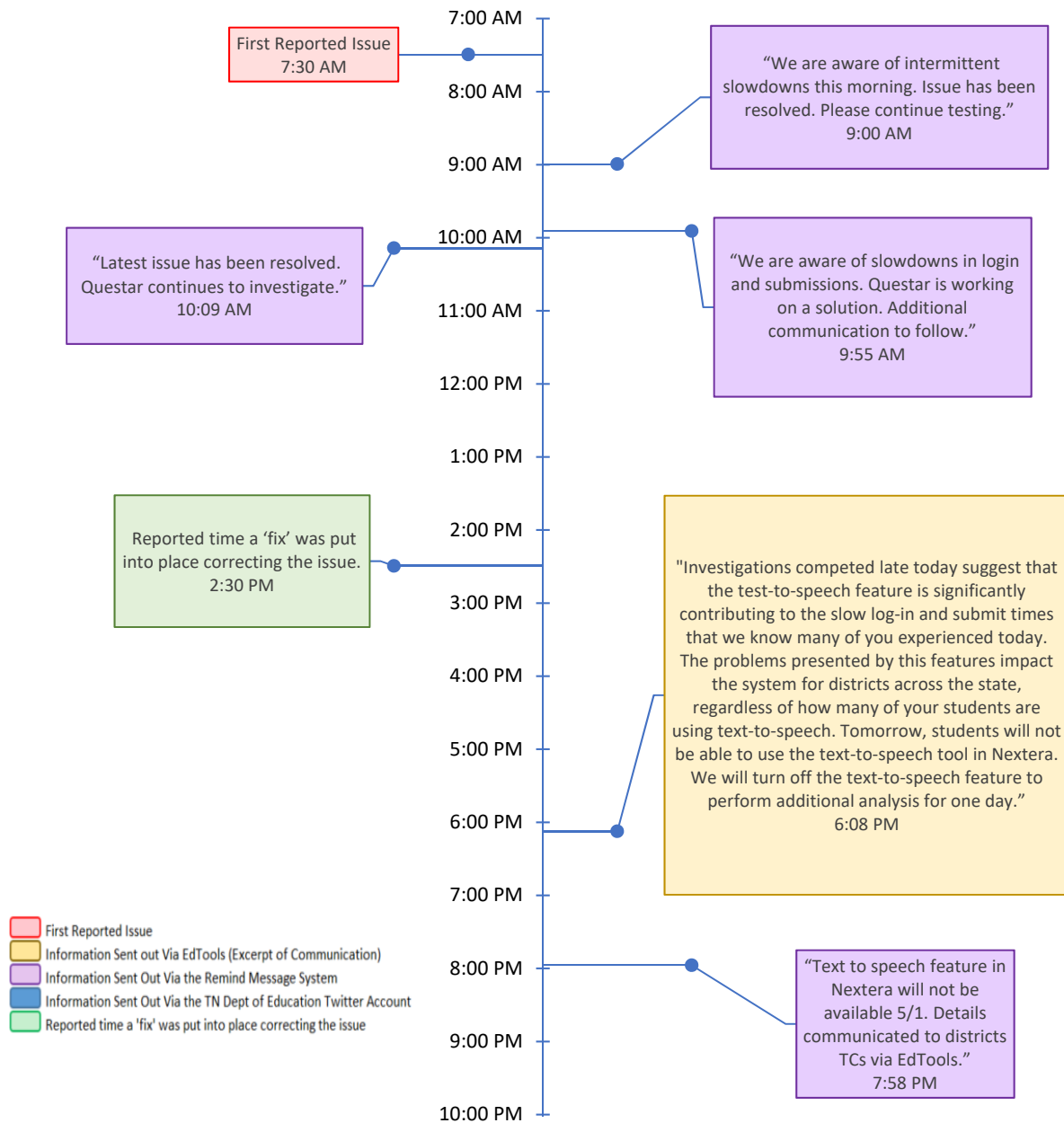
Thursday, April 26, 2018

Fiber Line Damaged in Northeast Tennessee



Note: A traffic accident in Hawkins County cut a major cable that provided internet access to school districts in East Tennessee, which affected 21 school districts.

Monday, April 30, 2018 Nextera Latency and TTS



APPENDIX A-3
TNREADY REQUEST FOR REVIEW AND COMPTROLLER RESPONSE



April 24, 2018

Justin Wilson
Comptroller of the Treasury
1st Floor, State Capitol
Nashville, TN 37243

Dear Comptroller Wilson:

Thank you for your service to the State of Tennessee. This letter is to request an review of the TNReady contract with Questar, related to the recent cyber-attack during the assessment period.

In addition to anything your office deems important, we would like to specifically request information on the following:

- Are there clawback provisions available, financial or otherwise, for failures in testing procedures?
- Is Questar required through their contract to act in full faith and fidelity in ensuring testing problems are solved?
- Is Questar contractually required to protect all student testing data? If so, what remedies are available for any personal information accessed or lost during the system's cyber-attack?

We want to ensure that students, parents, teachers, and administrators have confidence in that this information is not vulnerable, and that these issues are resolved in a timely manner.

We are asking that at the conclusion of the review, you report the findings to the House Government Operations Committee.

Thank you for your attention to this matter, and please let us know if you have any questions.

Sincerely,

A handwritten signature in blue ink, appearing to read "Beth Harwell".

Beth Harwell
Speaker of the House
Tennessee General Assembly

A handwritten signature in blue ink, appearing to read "Jeremy Faison".

Jeremy Faison
Chairman
House Government Operations Committee



JUSTIN P. WILSON
Comptroller

JASON E. MUMPOWER
Chief of Staff

June 19, 2018

The Honorable Beth Harwell
Speaker of the House
Tennessee General Assembly
425 5th Avenue North, Suite 600
Nashville, TN 37243

The Honorable Jeremy Faison
Chairman, House Government Operations Committee
425 5th Avenue North, Suite 622
Nashville, TN 37243

Re: Request for Review of TNReady Contract with Questar

Dear Madam Speaker and Chairman Faison,

I am writing in response to [your letter of April 24, 2018](#), in which you requested “a review of the TNReady contract with Questar, related to the recent cyber-attack during the assessment period.” We offer below responses to the specific questions in the April 24 letter. Please note that our review of the contract is ongoing, but we wanted to answer the specific questions asked at this time. A copy of the contract can be found [here](#) and a copy of the contract amendment can be found [here](#).

1. Are there clawback provisions available, financial or otherwise, for failures in testing procedures?

We have interpreted the term “clawback” as the recovery of money already disbursed to the contractor, which is allowed under this contract as described below. In addition, there are steps the Department of Education (“the department”) can take to reduce a payment for failures before the payment is sent, thus negating the need to clawback any payments already made to the contractor.

According to the contract, compensation to Questar by the state is contingent on satisfactory provision of goods and services set forth in Section A. According to the contract’s warranty clause (paragraph A.15), “[t]he goods or services provided under this Contract shall conform to the terms and conditions of this Contract throughout the Warranty Period.” If the department is not satisfied with goods or services delivered, including any poor provision of TNReady online testing for Tennessee’s students, Questar is required to correct problems at no additional charge,

as long as the department notifies the vendor within 30 days of delivery. (If the department fails to notify Questar of any defects, the contract states that the goods and services delivered are considered accepted by the department.) The warranty clause also states, “[i]f Contractor is unable or unwilling to re-provide the goods or services as warranted, then the State shall be entitled to recover the fees paid to Contractor for the Defective goods or services.” See also Paragraphs C.3, A.15, and A.16.

In a later paragraph, the contract allows the department to reduce the amount of a payment before it is made if it determines that the payment does not constitute proper compensation for the goods and services Questar provided. See Paragraph C.7.

In addition, the department can use liquidated damages against Questar as a penalty for its failure to meet contract requirements or for inadequate performance. See Paragraph E.13 and Attachment B, which breaks down product descriptions, including references to contract paragraphs and damage amounts per state work day.

2. Is Questar required through the contract to act in full faith and fidelity in ensuring testing problems are solved?

Yes, the contract requires Questar to act in full faith and fidelity in providing smooth, problem-free student online assessment testing. Both parties negotiated the terms of condition and scope of services for the agreed-upon compensation. Questar agreed to provide all goods, services, and deliverables as required and as detailed in the contract and to meet all service and delivery timelines. See Paragraph A.1.

Although the phrase “full faith and fidelity” does not appear in the contract, its spirit is detailed throughout the contract. To ensure Questar performs as required, the terms include developing an annual work plan; holding weekly meetings with department staff; performing extensive testing of the computer-based testing platform; and providing technical support during assessment windows. See Sections A.4, A.5, and A.10. Listed below are some additional examples of Questar’s responsibilities and actions:

- **Error Correction** – Questar shall correct any errors in work products at Questar’s expense including print errors and program functions. (Paragraph A.5.f)
- **Fairness** – Questar shall provide documentation in the Technical Report to verify that item development, test form construction, program implementation, assessment administration, and report information are monitored to ensure that no impediments are created which systematically limit opportunities for success by members of various student populations including: gender, race, ethnicity, nationality, culture, age, physical, visual, or hearing impairments, socioeconomic status, or rural/urban environments, as well as special populations including: special Education, LEP, and Section 504. (Paragraph A.6.n)
- **Fault Tolerance** – Questar shall deliver an end to end solution, inclusive of client software, server and architectural components that is highly fault tolerant, thoroughly tested and

hardened over time to the real world conditions that occur when conducting computer-based testing statewide. (Paragraph A.10.d)

- **Service Availability** – Questar shall implement systems and processes to ensure the continuous availability of computer-based testing services throughout critical testing periods. (Paragraph A.10.i)
- **Performance** – Questar shall provide a computer-based testing platform that is responsive to user interactions without excessive wait times ... with specific emphasis placed on time critical user interactions, such as live student testing and proctoring. (Paragraph A.10.k)
- **Penetration Testing** – Questar agrees to submit to penetration testing conducted by a third party at the cost of the State for all end points associated with the computer-based testing platform. (Paragraph A.10.p)

Questar must also have a plan in place to address problems that arise during actual student testing.

3. Is Questar contractually required to protect all student testing data?

Yes, the contract has several provisions to ensure protection of student testing data for both Questar and its data center vendor, including requiring compliance with state and federal laws. Specifically, the computer-based testing platform is required to be closely aligned with the rigorous standards outlined in the Family Educational Rights and Privacy Act (FERPA), which applies to all schools that receive U.S. Department of Education grant funds. See Paragraphs A.9.a, A.9.e, A.10.f, A.10.g, A.10.l, A.14.e, and E.7.

In addition, the data center facilities must conform with information technology standards, such as ISO27001, SOC2 Type 2 or FEDRAMP. See Paragraph A.10.f.

Even though the contract does provide some key protections, the department did not include in the contract the requirement that Questar and its data center vendor provide the department with a SOC2 Type 2 audit that adequately describes both Questar's and the data center vendor's internal controls and an auditor's opinion regarding effectiveness of controls.

A SOC2 Type 2 audit report is a report on controls at a service organization (like Questar and its data center vendor) relevant to security, availability, processing integrity, confidentiality or privacy. Questar has not had a SOC2 audit, however, the data center vendor has. We strongly recommend that the department include the SOC2 audit requirement in any future contracts with service organizations such as Questar and related vendors.

If so, what remedies are available for any personal information accessed or lost during the system's cyber-attack?

The incident response vendor reported on June 13, 2018, that none of the series of events were consistent with a cyber-attack. Pursuant to the terms of Tenn. Code Ann. § 10-7-504(i), that report is confidential and not open for public inspection.

As a matter of emphasis, in the event of lost personal information for any reason, the department can assess liquidated damages or cancel the contract. See Paragraph D.6.

As you requested, we plan to report these findings to the House Government Operations Committee at its meeting on June 20, 2018.

Sincerely,

A handwritten signature in black ink that reads "Justin P. Wilson". The signature is written in a cursive style with a large, stylized "J" and "W".

Justin P. Wilson
Comptroller of the Treasury

APPENDIX A–4

COMPTROLLER OF THE TREASURY TNReady TEACHER SURVEY

Survey Respondents

In May 2018, using a list provided by the Department of Education, we conducted a survey of 67,477 Tennessee public school teachers. While we recognized that not all teachers were involved with administering or proctoring TNReady tests, we wanted to ensure that the appropriate teachers responded to the survey. To identify teachers who administered or proctored a test, the survey first asked,

Have you administered/proctored any of the TNReady tests for the 2017-2018 academic year?

Of the 67,477 teachers surveyed, 15,567 teachers responded to the first question; 12,809 respondents answered “Yes” and continued the survey. The remaining respondents answered “No,” thereby ending their survey participation. The survey questions and responses are listed below and on the following pages.

TNReady Teacher Survey

This survey was developed to capture teachers’ experiences with the TNReady testing program for the 2017-2018 academic year. Thank you for taking a few moments of your time to help us understand the TNReady testing process this year.

Background: Helps us understand the perspective of teachers answering the questions.

G1. Have you administered/proctored any of the TNReady tests for the 2017-2018 academic year? This question is mandatory. Please choose **only one** of the following. [Only those respondents indicating “Yes” to this question continued the survey.]

- Yes 12,809
- No 2,758

G2. How many years’ experience do you have as a teacher? Only numbers may be entered in this field. Your answer must be at most 50.

- Range: **0-49**
- Average: **13.8**

G3. For what grade(s) did you administer the TNReady test(s)? Please choose **all** that apply:

- 3-4 **3,093**
- 5-8 **5,583**

- 9-11 **4,751**

G4. In what format did you administer the TNReady tests?

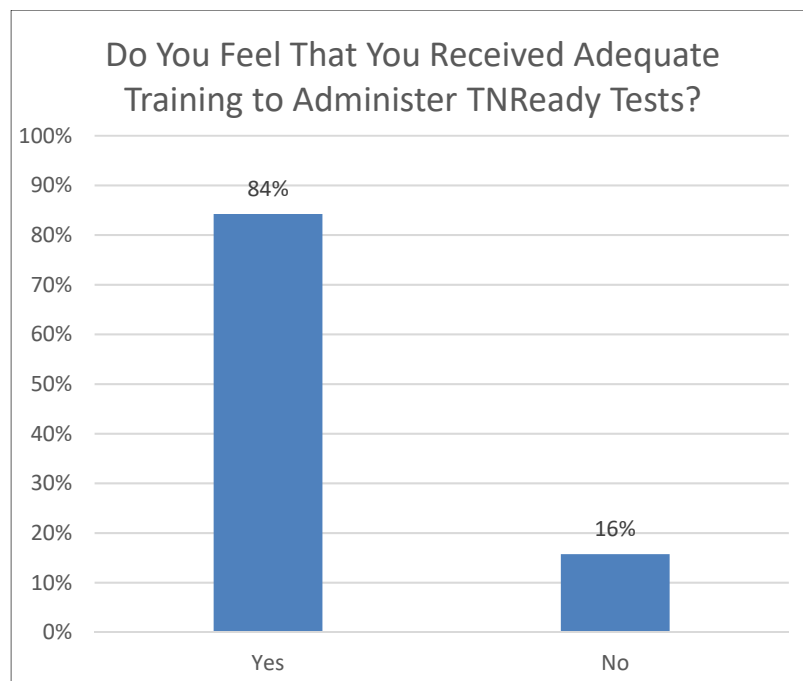
Please choose **only one** of the following. Answer "Online" if all of your students used their computers to take all of their TNReady tests this academic year. Answer "Paper" if all of your students used pencil and paper to take all of their TNReady tests this academic year. Answer "Both" if you had personal experience this academic year administering TNReady tests to your students in both formats. This question is mandatory. [Subsequent questions were answered based on the responses to these questions. Respondents selecting "Online" and "Both" responded to questions about online testing. Respondents selecting "Paper" and "Both" responded to questions about paper-based testing.]

- Online **6,178 (48%)***
- Paper **6,055 (47%)***
- Both **576 (4%)***

*Percentages may not add to 100 because of rounding.

G5. Do you feel that you received adequate training to effectively administer the TNReady tests?

- Yes **10,791 (84%)**
- No **2,081 (16%)**

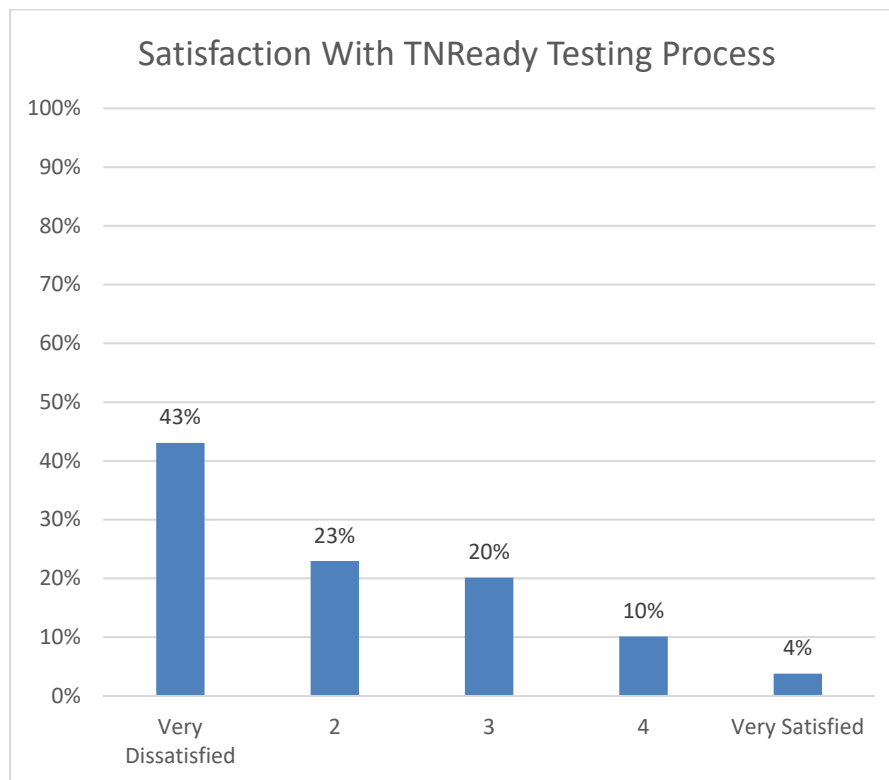


G6. Please describe what additional training you would have liked to receive to more effectively administer the TNReady tests. [Respondents selecting “No” to question 5 had the opportunity to respond to this question.]

There were [1,643 responses](#).

G7. Please rate your satisfaction with the 2018 TNReady testing process on a scale of 1 to 5. (1 – very dissatisfied; 5 – very satisfied). Please choose **only one** of the following:

- **1 (Very dissatisfied)** **5,515 (43%)**
- **2 (Dissatisfied)** **2,940 (23%)**
- **3 (Neutral)** **2,575 (20%)**
- **4 (Satisfied)** **1,294 (10%)**
- **5 (Very satisfied)** **485 (4%)**

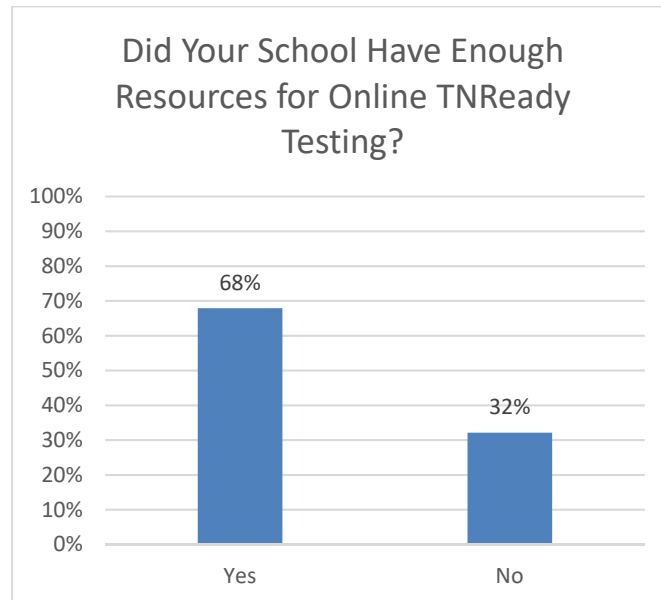


TNReady Online: Helps us understand the experiences of those administering the online tests.

[Only respondents selecting “Online” and “Both” on Question G4 responded to questions about online testing.]

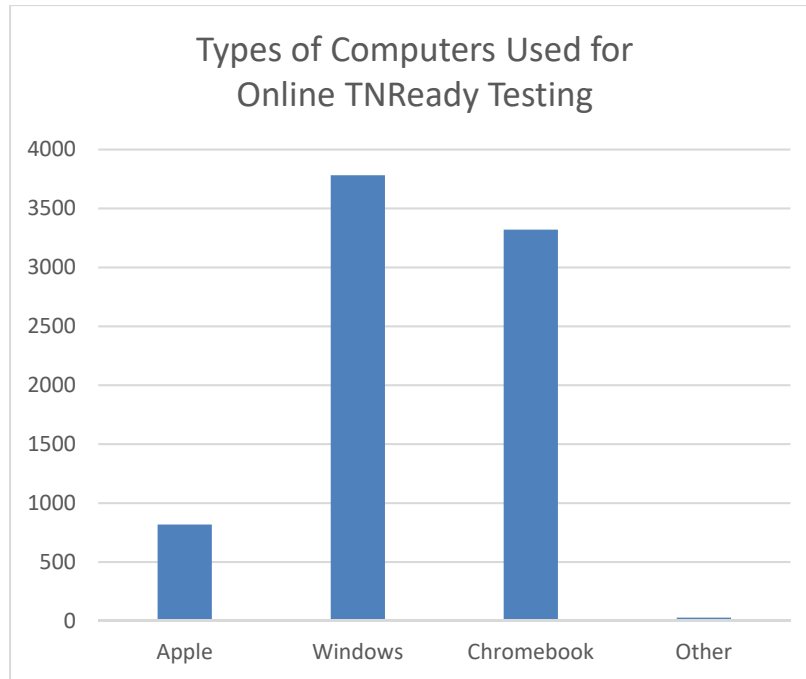
O1. In your opinion, did your school have enough computer resources available for use for online TNReady testing? Please choose **only one** of the following.

- Yes **4,548 (68%)**
- No **2,170 (32%)**



O2. What type of computer did your students use for taking the TNReady tests? This question is mandatory. Please choose **all** that apply. [Some schools used multiple types of computers for testing.]

- Apple **817**
- Windows **3,781**
- Chromebook **3,320**
- Other **27**



- O3. If you used different types of computers (Apple and Windows, for example) and experienced more problems with one than another, please describe the problems you experienced.

There were [613 responses](#).

- O4. Approximately what percentage of the students testing under your observation used the text-to-speech (TTS) function?

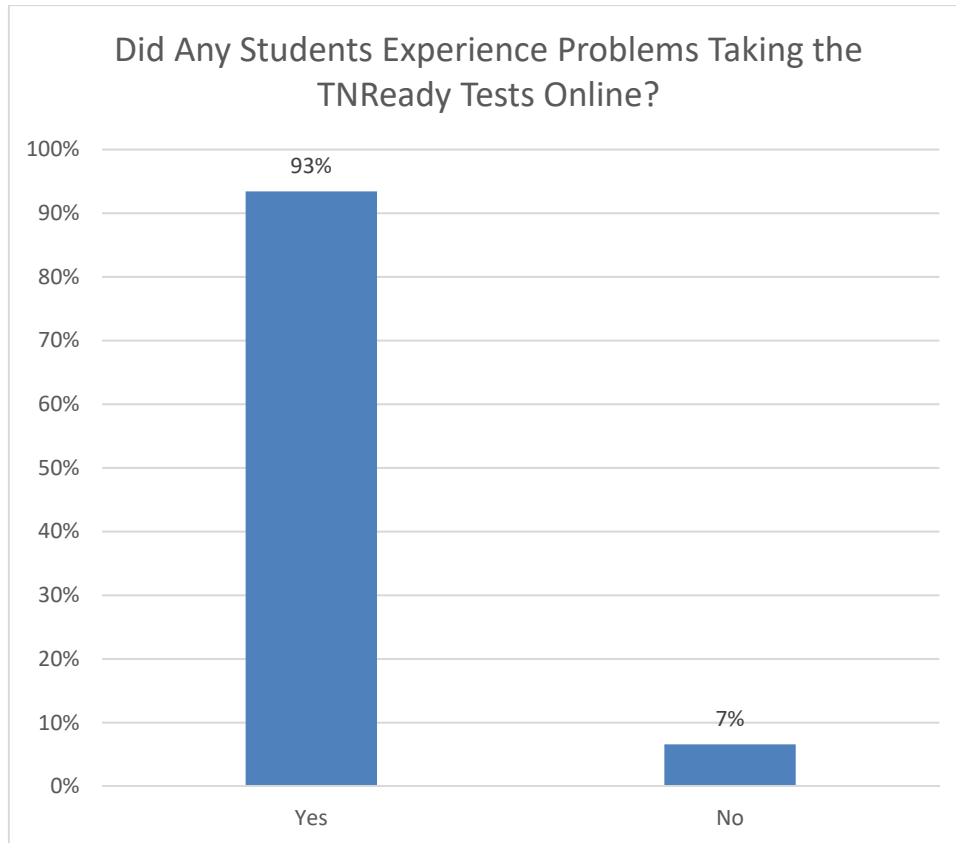
Responses ranged from 0 to 100%.

- O5. Effective May 1, 2018, text-to-speech (TTS) was disabled. Please describe the impact of NOT having TTS available.

There were [2,526 responses](#).

- O6. Did any students experience problems taking the TNReady test(s) online? Please choose only one of the following:

- Yes **6,309 (93%)**
- No **445 (7%)**

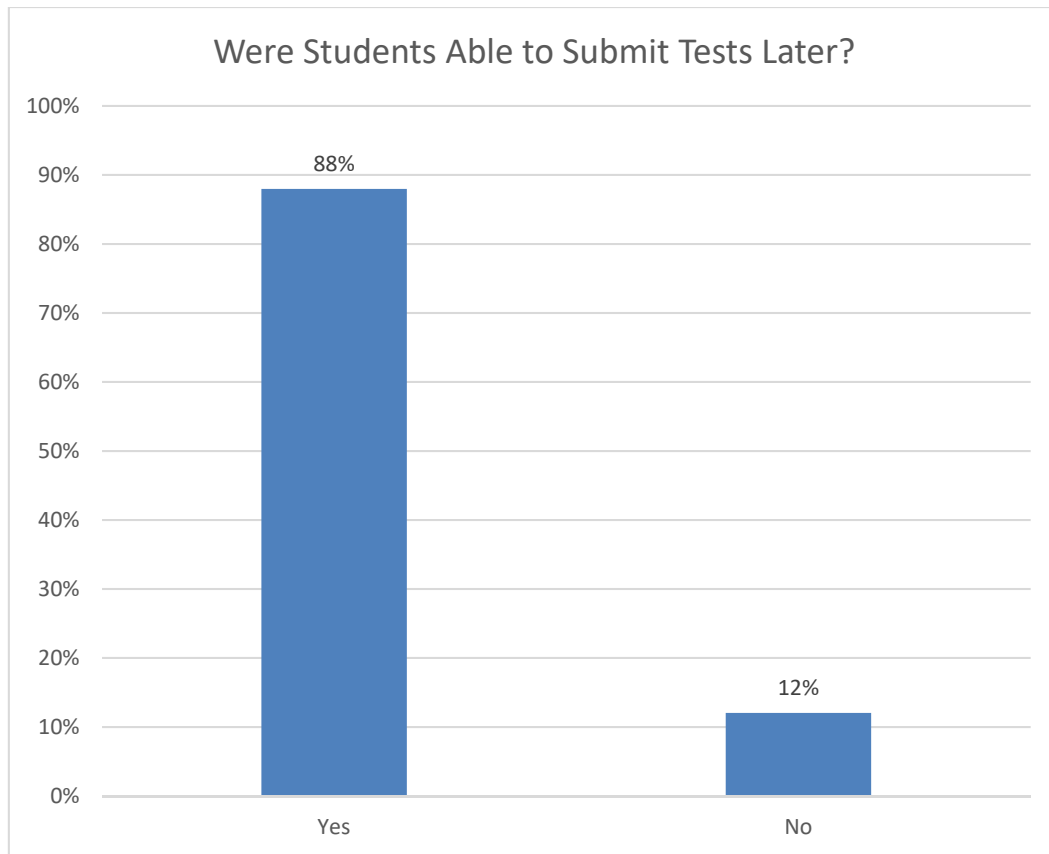


O7. Have your students experienced any of the following problems? Please choose all that apply:

- Inability to log into the testing application **5,215**
- Inability to submit answers when they completed the test **5,765**
- Lack of network access to be able to reach the testing application **3,639**
- Taking the wrong test **578**
- Other **811**

O8. Were students able to successfully submit their tests later? Please choose only one of the following:

- Yes **5,072 (88%)**
- No **693 (12%)**



O9. Is there anything else you would like us to know about the online testing process?

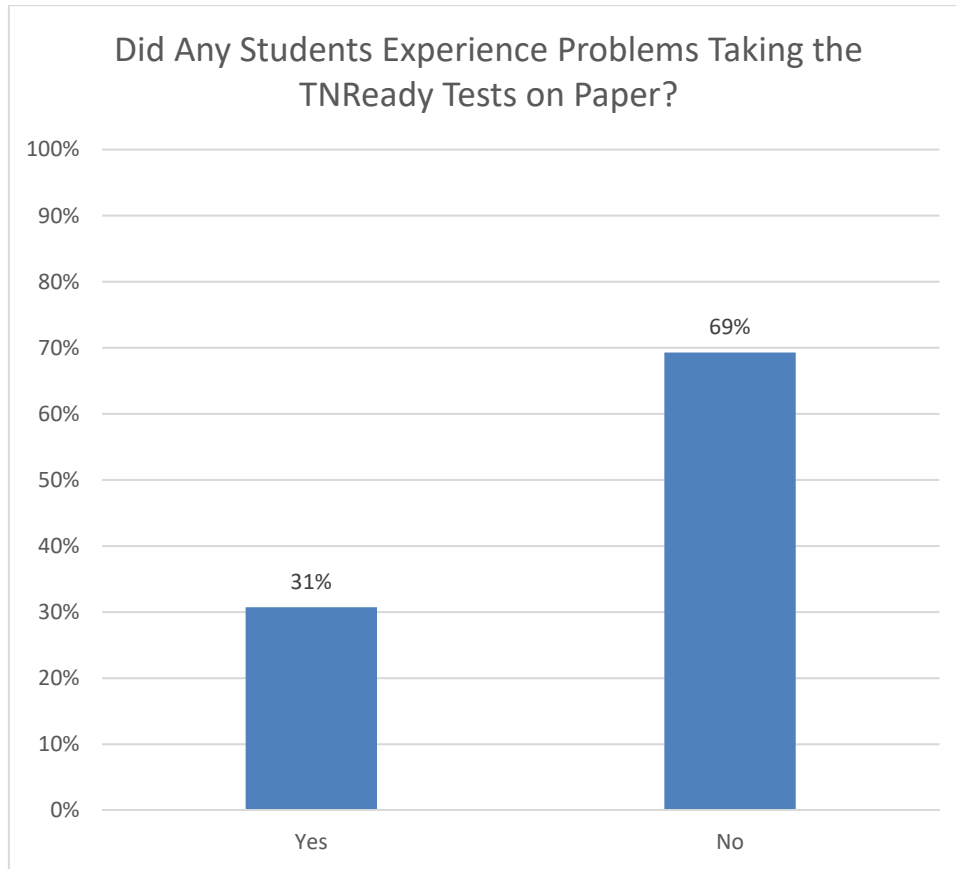
There were [4,210 responses](#).

TNReady Paper: Helps us understand the experiences of those administering the paper tests.

[Note: Only respondents selecting “Paper” and “Both” on Question G4 responded to questions about online testing.]

P1. Did any of your students experience problems taking the TNReady test using the paper format test (not using a computer to submit answers)? Please choose only one of the following:

- Yes **2,038 (31%)**
- No **4,593 (69%)**



- P2. Please describe the problems you observed the students experiencing with the paper TNReady tests. (Please limit your comments to the mechanics of the testing process, not the value of the TNReady tests or their uses.)

There were [1,937 responses](#).

- P3. Is there anything else you would like us to know about the paper testing process?

There were [2,996 responses](#).

APPENDIX A–5

TNReady METHODOLOGIES

Teacher Surveys

To achieve our objectives, we conducted a survey to all 67,477 Tennessee public school teachers to capture their experiences with the TNReady testing process during the Spring 2018 testing window. Only the teacher who received the survey could answer it. After distributing the survey, we received feedback from many school employees who were not directly involved in testing or teaching tested subjects but played a role in the TNReady testing process. We then conducted an additional survey seeking only comments from this group of respondents; however, any individual who received the survey could participate in it. The teachers' survey results and all survey comments are presented in **Appendix A-4** and [here](#), respectively. Because we did not limit the population of the second survey, some respondents participated in both surveys.

Contract Management

To achieve our objectives, we interviewed Department of Education management and staff and analyzed the department's 2017–2018 Annual Work Plan sections on grades 3 through 8 and end-of-course assessments.

Training

To achieve our objectives, we reviewed the department and Questar's 2017–2018 test administration training materials, interviewed key department personnel, and reviewed statewide training event sign-in sheets for district testing coordinators. In addition, from a population of 146 school districts, we selected a nonstatistical, random sample of 60 school districts that participated in online testing during the 2017–2018 school year. We requested and reviewed the district and school-level test training plans.

Online Platform Changes

To achieve our objectives, we interviewed key department personnel, requested information related to online platform changes from Questar, reviewed the department's online test form functionality review and user acceptance testing tracking spreadsheets, and examined the department's contract with Questar for language related to online platform changes.

Questar Customer Support

To achieve our objectives, we reviewed call center wait times information, reviewed daily webinars, interviewed department and Questar personnel, and interviewed school test administrators to gain an understanding of call center wait times and the customer support Questar provided during the testing window. We also interviewed department staff and reviewed the contract amendment to gain an understanding of the changes related to call wait times and customer support.

Test Recovery Communication

To achieve our objectives, we interviewed key department personnel; reviewed test recovery statistics from both the department and Questar; and reviewed the department's daily webinars and EdTools communications regarding test recoveries from each day of the testing window.

APPENDIX A–6

RFP STRUCTURE AND SCORING DISTRIBUTION

The request for proposals (RFP) was structured as follows:

1. **General Qualifications and Experience** – in addition to general information about the company and its employees, this section required respondents to
 - describe how long they had been providing assessment services, including test creation, administration, scoring, and reporting;
 - provide a brief, descriptive statement detailing evidence of their ability to deliver the goods or services sought (e.g., prior experience, training, certifications, resources, program and quality management systems, etc.); and
 - supply customer references from individuals for projects similar to the services sought, representing two of the larger accounts serviced and three completed projects.
2. **Technical Qualifications, Experience and Approach** – This section required respondents to provide comprehensive information about assessment development, project management, and test processing and scoring. It also included one portion devoted to describing the system used for online assessment testing, requiring “a description of prior usage of the system, including load times, wait times, total demonstrated load, any failures and subsequent solutions.”
3. **Tier 3 Interview** – Evaluators interviewed the top three best evaluated respondents for the purpose of allowing the state a more in-depth understanding of the respondent’s knowledge of the service the department was requesting and the respondent’s ability to provide such services.
4. **Cost proposal** – Each respondent submitted a cost proposal for each portion of the RFP.

The four sections of the RFP totaled 100 points and were weighted as follows:

RFP Evaluation Category	Maximum Points Possible
General Qualifications and Experience	5
Tier 3 Interview	15
Cost Proposal	30
Technical Qualifications, Experience, and Approach	50

Department Operations



TEACHER LICENSURE

Statutory Requirements

State law assigns various authorities, responsibilities, and duties to different educational organizations in Tennessee. Section 49-10-302, *Tennessee Code Annotated*, gives the State Board of Education the authority to set policies governing the qualifications of educators in Tennessee. Furthermore, Section 49-1-201 assigns responsibility for implementing the laws or policies established by the General Assembly or the board to the Commissioner of the Department of Education. It also states that the Commissioner “shall provide direction through administrative and supervisory activities designed to build and maintain an effective organization” and see that these laws and policies are “faithfully executed.” Additionally, Section 49-2-303, states that it is the duty of the school principal to

Submit recommendations to the director of schools regarding the appointment and dismissal of all personnel assigned to the school or schools under the principal’s care, and make decisions regarding the specific duties of all personnel assigned to the school or schools under the principal’s care; provided, that the duties of teachers shall be within their area of licensure and consistent with the policies, rules, or contracts of the board of education.

Finally, according to Section 49-5-201, it is the duty of the teacher to “give instruction to the pupils only in the subjects covered by the license that the teacher holds.”

Department of Education’s Office of Educator³⁹ Licensure and Preparation

Staff within the Office of Teacher Educator Licensure and Preparation (OELP) are responsible for issuing all Tennessee educator licenses. OELP staff manage the licensure process from application to issuance within the online platform, TNCompass. TNCompass is a vendor-supported application that allows educators to apply for initial licenses, advancement, renewal, additional degree/endorsements, name changes, and demographic information changes. More information regarding licensure types is in **Appendix B-1**.

Endorsements

An endorsement indicates the area for which a licensed educator is prepared to provide instruction, leadership, or services in schools and districts, as well as which courses and grades he or she is qualified to teach. An educator may hold more than one endorsement. Annually, the department creates and publishes online a guide called the Correlations of Course and Endorsement Codes, which lists all the courses offered in public schools and the corresponding endorsement codes that an educator must hold in order to be qualified to teach that particular course.

³⁹ The word “educator” is used to describe a group of individuals that need a license to work in school districts in Tennessee. This group consists of teachers, assistant principals, principals, superintendents (directors of schools), school administrators, and supervisors.

Exceptions to Endorsement Rules

Board rules or policies allow for a few exceptions to endorsement rules in order to provide districts and schools with some flexibility in hiring teachers.

- Algebra I/Integrated Math I employment standard – Any teacher interested in teaching Algebra I or Integrated Math I at any grade level who does not hold a secondary mathematics endorsement must meet the board-approved employment standard.⁴⁰ This chiefly affects middle school teachers who are teaching Algebra 1 or Integrated Math I and special education teachers who are serving as the teacher of record.
- “One out” Rule – The *Rules of the State Board of Education*, Section 0520-01-02-.3, states that “a teacher may teach up to two (2) sections of one (1) course outside the area of endorsement.” It is important to note, however, that this rule does not apply to courses required for graduation in which an end-of-course (EOC) examination is given, as stipulated by Section 49-6-6006, *Tennessee Code Annotated*, which requires that any educator teaching a course with an EOC must hold a content-specific endorsement or demonstrate sufficient knowledge by passing a standardized or criterion-referenced test for the content area.
- Waivers – A district may apply for an employment standards waiver for exceptions to the endorsement rule, such as when they would like to have a licensed educator teach a subject area for which they do not have an endorsement. A waiver must be renewed by the district every year, for up to a maximum of three years.

Information Systems

The department’s Education Information System (EIS) is the pre-K through 12 state data collection system, which receives daily updates from the individual school districts’ student information systems. Districts input data into their student information systems, including the student schedules containing course codes and teachers, which then updates EIS. Department staff manually enter the Correlations of Course and Endorsement Codes document into the department’s application, Course Master, which then matches to EIS to ensure that all course codes that the districts entered are valid courses. EIS can also run an automatic check of TNCompass (the licensure application system) to ensure that teachers who are assigned in EIS to teach courses are licensed; however, this is purely a licensure check and not a check of the appropriateness of course assignments to licensure endorsements. EIS is the only information system that contains teacher work assignments; this information is not in TNCompass.

Background Checks

⁴⁰ In order to teach Algebra I or Integrated Math I without a secondary mathematics endorsement, educators must pass the Middle School Mathematics Praxis (5169) and must meet one of the following:

- attend the state-approved training, or
- take and pass a supplemental test approved by the department.

The Praxis tests measure the academic skills and subject-specific content knowledge needed for teaching. Individuals entering the teaching profession take the Praxis tests as part of the certification process required by many states and professional licensing organizations.

Background Checks

Section 49-5-413, *Tennessee Code Annotated*, states that all prospective employees—teachers, staff, and contracted employees—must pass a fingerprint criminal history background check conducted by the Tennessee Bureau of Investigation prior to consideration for employment with a school district. In addition, districts are prevented from hiring persons who

- 1) the Department of Children’s Services has identified as perpetrators of child abuse, severe child abuse, or child neglect;
- 2) are listed on the state’s abuse of vulnerable persons registry maintained by the Department of Health; or
- 3) are listed on the sex offender registry, maintained by the Tennessee Bureau of Investigation.

Audit Results

- 1. Audit Objective:** Did the department implement effective procedures to verify that candidates met licensure requirements before issuing educator licenses?

Conclusion: The department implemented effective procedures to verify that candidates met licensure requirements before issuing educator licenses.

- 2. Audit Objective:** Did local educational agencies (LEAs) ensure educators were properly licensed and appropriately endorsed to teach assigned courses?

Conclusion: LEAs did not always ensure educators were properly licensed and appropriately endorsed to teach assigned courses (see **Finding 6**). Additionally, we found overall control issues related to documentation of the district-level hiring process (see **Finding 7**). Furthermore, due to organizational and systems limitations, the department and the board have limited oversight capabilities to ensure that LEAs are assigning courses appropriately to properly endorsed teachers (see **Observation 1**).

- 3. Audit Objective:** Did LEAs ensure teachers and other licensed school personnel obtained a background check?

Conclusion: We found that, except for one instance, the LEAs ensured educators obtained the required background checks.

Finding 6 – The Cheatham County School District did not comply with State Board of Education policy, state statute, or rules regarding teacher licensing, endorsement, and class assignments, increasing the risk that children are not receiving a proper education

Teacher licensure exists to protect the public by ensuring that only qualified individuals are teaching Tennessee’s children. When the Department of Education, the State Board of Education, and the local educational agencies do not ensure educators are properly licensed before beginning employment, the risk that students may not receive the proper education increases.

Teachers Did Not Have a License

Of the 186 Cheatham county educators tested (Sample A and Sample B), we found that 4 educators who were teaching courses were not licensed.

- Based on our review of their license status in TNCompass, 2 Cheatham County School District educators tested (1%) did not have an active license prior to or during their periods of employment.

Section 49-5-101(a), Tennessee Code Annotated:

No person shall be employed as principal, teacher or supervisor of any public elementary or high school by any local school district, or receive any pay for such services out of the public school funds of the local school district until the person presents to the director of schools a valid license as prescribed in this part. It is unlawful for any board of education to issue any warrant or check to such persons for services as principal, teacher or supervisor until the person has presented for record a license valid for the term of the employment.

Teacher	School Years Employed	License Status in TNCompass
1	2015–2016 and 2016–2017	Pending
2	2015–2016	Requirements Not Met

According to the Cheatham County School District Supervisor of Human Resources, Student Services, and Policy, these educators “were overqualified for a teaching position based on industry experience and ended up not fulfilling required university coursework.” She stated that the educators agreed to fulfill the requirements; however, they neglected to do so, and their employment was terminated as a result. The teachers were not terminated until the end of the school year, though. Essentially, based on these discussions, the district employed unlicensed teachers, allowing each to teach courses for at least one full year, with the hopes that they would be licensed in the future.

- Based on our review of TNCompass license information, one educator taught an end-of-course class; however, he did not have a license for the entire 2014–2015 school year. He held a transitional license⁴¹ from June 14, 2013, to August 31, 2014; however,

⁴¹ A transitional license is no longer an active licensure type; however, when it was active, the department issued them to educators who were employed as teachers while completing licensure requirements. The license was issued for one school year at a time and was renewable two times for a maximum of three years, depending on progress toward licensure.

he did not renew or advance his license after that date. As a result, the educator was only licensed for the first 19 days of the school year.

The Supervisor of Human Resources, Student Services, and Policy stated that the educator “was to work on requirements to advance his license, and later neglected to do so” and was terminated at the end of the school year as a result. Despite this explanation, the educator was employed for the entire school year even though he only held an active license for 19 days.

When we asked the department’s Executive Director of Educator Preparation and Program Approval about these educators, he responded that “LEAs should be knowledgeable that educators who are staffed as a teacher of record must hold a license and appropriate endorsements for the course. License transactions that are in a ‘Pending’ status in TNCompass are not active licenses.”

Class Taught by Paraprofessional, Not Licensed Teacher as Required

During our review of educator qualifications, we found that in school years 2015–2016, 2016–2017, and 2017–2018, the Cheatham County district’s gradebook system listed two middle school counselors as the teachers of record for Computer Literacy, which was taught to children in grades 5 through 8. Based on the school principal’s explanation, the counselors were listed as “placeholders” in the gradebook system because the actual instructor was a paraprofessional, not a licensed teacher as required by department guidelines, and thus was not listed in the gradebook system. The district used the counselor’s name so that the actual instructor could record student grades; however, this practice created an inaccurate record because the actual teacher was not listed as the teacher of record in the school’s system, hindering transparency. We reviewed these courses in the department’s Education Information System (EIS) and found that the system showed the counselors were recorded as the teacher of record in EIS as well.

Based on our discussion with the department’s Director of Student Readiness and Pathways, EIS is designed to display an error if a district enters an unlicensed individual as the teacher of record for a course requiring a licensed teacher. When district staff recorded a licensed teacher as the teacher of record, although the course was taught by an unlicensed paraprofessional, the district circumvented EIS internal controls.

Criteria to Teach

Furthermore, our review of the department’s Correlations of Course and Endorsement Codes documents for the years noted and discussions with department staff revealed that the Computer Literacy course must be taught by a licensed, certified teacher.

Cause

The Cheatham County Director of Schools responded that “administration/management were not fully aware” the course must be taught by a certified teacher. We asked the department’s Executive Director of Educator Preparation and Program Approval, and he stated that “the LEA was using a practice that is not permissible (i.e., staffing an educator in the course who is not actually teaching the course).” He further stated that “LEAs should be knowledgeable that

educators who are staffed as teacher of record must hold a license and appropriate endorsements for the course.”

Effect

When school districts do not properly monitor an educator’s licensure, it increases the risk that educators are teaching without an active license and that they have not met the requirements to renew their licenses, including obtaining professional development points by attending training to increase their skills. Without properly licensed educators, the quality of education in Tennessee schools may be impacted.

When the state and local licensure records do not accurately reflect the teacher of record’s identity, system controls are circumvented, and noncompliance with licensure rules is likely to go undetected.

Teacher Endorsement and Course Assignments

Of the 186 Cheatham County educators tested (Sample A and Sample B), we found 9 educators (5%) who, although they held licenses, were teaching courses they were not qualified to teach.

Teachers Not Properly Qualified to Teach Integrated Math Courses

Based on our testwork, we found one educator who did not have the proper endorsement to teach Integrated Math II. Integrated Math I, II, and III are all courses required for graduation and include an end-of-course (EOC) examination. This teacher had an Elementary Grades 1–8 endorsement and met the employment standard to teach Algebra I/Integrated Math I; however, she was also teaching Integrated Math II, which requires an EOC examination. She neither held the proper endorsement nor passed the relevant content exam that would allow her to teach Integrated Math II.

The Cheatham County Director of Schools and Supervisor of Human Resources, Student Services, and Policy, stated that the educator did not teach over the allowed “one over,” noting that the educator only taught one section of Integrated Math II in school years 2016–2017 and 2017–2018; however, this rule does not apply to classes with EOC examinations.

During our testwork, we also found five educators that did not have the proper teaching endorsement to teach Integrated Math I and/or II.

- Four teachers held endorsements in Special Education and had not met the applicable employment standard or passed the required math Praxis.

Section 49-6-6006, Tennessee Code Annotated:

A teacher shall not teach a course in which an end of course examination is required for students to satisfy graduation requirements set by the state board of education pursuant to §49-6-6601 (a), if the teacher’s license does not carry a subject specific endorsement for the subject area of the course; unless the teacher demonstrates sufficient content knowledge in the course material by taking, at the teacher’s own expense, and by passing a standardized or criterion-referenced test for the content area.

- The other teacher held a Middle Grades endorsement and had not passed the required math Praxis to teach Integrated Math II. She taught Integrated Math II in school years 2015–2016 and 2016–2017. The district improperly received an employment standards waiver for 2015–2016. (We address the improper employment standards waiver in the next section.) In 2016–2017, the educator continued to teach Integrated Math II; however, the improperly approved waiver only covered the 2015–2016 year.

Table 8
Summary of Integrated Math Endorsement Issues Found

Teacher	Class	School Year(s)	Endorsement(s) Held
1	Integrated Math IA Integrated Math IIA	2016–2017	Special Education K–12
2	Integrated Math IA Integrated Math IIA	2015–2016	SPED ⁴² Modified K–12 Elementary K–6
3	Integrated Math IA Integrated Math IB Integrated Math IIA Integrated Math IIB	2015–2016 2016–2017 2017–2018	Elementary 1–8 History 7–12 SPED Modified K–12
4	Integrated Math IIA	2015–2016	SPED Modified K–12 Sped Comp K–12
5	Integrated Math II	2015–2016 2016–2017	Middle Grades 4–8

Criteria to Teach

Because the sections of Integrated Math IA, IB, IIA, and IIB taught by these Special Education teachers are for students with an Individualized Education Plan⁴³ in place, a Special Education teacher or staff member should either teach the class (if qualified to do so) or assist the Math endorsed teacher. According to the department’s Correlations of Course and Endorsement Codes document for the years noted, in order to teach the Integrated Math classes noted, the teacher of record may be an appropriately endorsed Special Education teacher who has earned a passing score on the Secondary Math Praxis or met the applicable employment standard, or an appropriately endorsed regular education teacher; however, someone from the Special Education staff must work with the teacher to support the students with disabilities in the classroom.

⁴² SPED stands for special education.

⁴³ An individualized education plan is a document that is developed for each public school child who is eligible for special education.

Cause and Effect

Based on responses from the Cheatham County Director of Schools and Supervisor of Human Resources, Student Services, and Policy, the special education teachers (teachers 1 through 4) were working outside the classroom with a supporting math teacher; however, this practice does not comply with the correlation document. The Special Education teacher must be appropriately endorsed in Math, or the Math teacher may teach the course with the support of special education staff. Cheatham County, however, was applying the rule incorrectly by allowing Special Education teachers to teach the course and collaborate outside of class with a properly endorsed math teacher. For teacher 5, the Director of Schools and Director of Human Resources, Student Services, and Policy stated that the department granted the waiver in error; however, as we noted, the waiver was not appropriate, and the teacher continued improperly teaching the course the following year.

The department publishes the correlation document to help districts ensure that teachers have sufficient content knowledge to teach, especially for those courses in which an EOC exam is required for students to graduate. When teachers are not properly endorsed, the risk that students are not receiving proper instruction in these critical areas increases.

The Department Improperly Approved an Employment Standards Waiver

The district applied for and received an approved waiver from the department for Teacher 5 from the previous section; however, waivers are not permitted for courses with EOC examinations, as stated in Section 49-6-6006, *Tennessee Code Annotated*. According to the waiver application, the district sought a waiver for Bridge Math and Integrated Math II. Because Integrated Math II requires an EOC examination and the teacher had not passed a content exam, such as the Praxis, the department should not have approved this waiver.

When we spoke with the department's Executive Director of Educator Preparation and Program Approval, he stated that although he could not remember why he approved this waiver or the circumstances around it, the district did include an inactive course code on the waiver, which may have led to confusion about which course the waiver involved.

The Frequently Asked Questions included in the Employment Standards Waiver Application state,

Question: Are there any restrictions on the endorsements for which the system may acquire a waiver?

Answer: Courses which conclude with an end-of-course exam for high school credit may not be taught on waivers.

The department must approve employment standards waivers to ensure that districts take the appropriate steps to use properly endorsed teachers in classrooms. When the department incorrectly approves waivers, it allows unqualified teachers to teach.

District Did Not Comply With Waiver Requirements

No Approved Waiver

Based on testwork performed, 2 of 186 teachers tested (1%) taught more than 1 course or more than 2 sections of 1 course outside their endorsement area without an approved employment standard waiver.

Teacher	Endorsement Names	Course(s) Taught Outside Endorsement for 2015–2016 School Year
1	420 Phys Ed K–12 577 Health Science/Occupations	Sociology (1 section) Psychology (1 section)
2	411 French 7–12	Spanish 1 (4 sections)

No Waiver Requested

We also found that one teacher taught Integrated Math I in school year 2014–2015 and Integrated Math II and III in school year 2015–2016; however, the district failed to seek a waiver although one was required. During the 2014–2015 school year, the educator held an Elementary K–8 endorsement, and he had not met the applicable employment standard to teach Integrated Math I, a course that requires an EOC examination. The educator added a Mathematics 6–12 endorsement to his license on March 14, 2016; however, that was approximately seven months into school year 2015–2016.

Based on discussion with the department's Executive Director of Education Preparation and Program Approval and the General Counsel, the district should have applied for a waiver for this educator on the basis that he had passed the content exam; however, the department has not made this clear in guidance issued to districts.

The most recent guidance, an August 2017 memo, “Requirements for teachers of courses with an EOC,” does not make it clear that if a teacher passed a content-specific or criterion-referenced exam, the district must still apply for a waiver if the teacher does not hold the appropriate endorsement. Additionally, the department’s August 2017 memo states, “Teachers of a course required for graduation in which an end-of-course (EOC) examination is given who do not currently meet these requirements must submit an endorsement application or passing scores on an application examination by XXX to be in compliance with state law.”

Cause – District

Based on responses from Cheatham County School District, the Supervisor of Human Resources, Student Services, and Policy did not think a waiver was necessary for the first teacher because the courses were each one semester long and were not taught in the same semester. However, the rules state that teachers may not teach more than one course outside the area of endorsement and do not address the length of the courses within the school year. For the second teacher, the Supervisor of Human Resources stated that the teacher speaks fluent Spanish but did

not pass the Praxis. She stated that the district did not have any certified Spanish teacher applicants at all; however, regardless of the reason, the district should have applied for a waiver under the circumstances.

Effect

Education standards exist to protect the public and ensure that students receive the best quality instruction possible. When educators are not properly endorsed, the risk that students are not receiving quality instruction increases.

Additionally, the requirement for districts to obtain waivers exists to ensure that districts have options to fill open teaching positions when recruitment efforts have failed. When waivers are not requested, it increases the risk that districts are not properly recruiting and hiring appropriate staff for all courses.

Recommendation – Teacher Licensure Issues

Cheatham County School District

The Cheatham County Director of Schools and Supervisor of Human Resources, Student Services, and Policy should work with the department’s licensing staff to ensure that all educators, before beginning employment, are properly licensed and certified to teach the courses they are assigned. Additionally, the Director of Schools should implement procedures to ensure that all teachers are licensed for the entire school year. Furthermore, the Director of Schools should work with all staff involved with scheduling to ensure that teachers of record are accurately recorded in all systems, including EIS.

Tennessee Department of Education

The Commissioner and the Executive Director of Educator Preparation and Program Approval should consider increasing training and communication of licensure requirements to districts.

Recommendation – Teacher Endorsement and Course Assignments

Cheatham County School District

The Cheatham County Supervisor of Human Resources, Student Services, and Policy should work with school administrators to ensure that no teachers are teaching EOC classes outside of their endorsement areas. The Cheatham County School District Supervisor of Human Resources, Student Services, and Policy should work with the department’s licensing staff to ensure all teachers are appropriately assigned to courses. In the event a waiver is needed for courses that do not require an EOC examination, the Supervisor of Human Resources should ensure that the waiver application is filed promptly.

Department of Education

Additionally, the Commissioner and the Executive Director of Educator Licensure and Preparation should work to ensure that all district human resources personnel understand the rules, especially with regard to EOC classes. They should work with licensure staff to stress the importance of this oversight function and ensure that waivers are not approved for EOC classes. Additionally, department management should consider clarifying policies or combining all related guidance in one central location, with references among related topics. Department management should also consider providing district staff with additional training for special licensing situations, such as waivers or EOC classes.

Management's Comment

Cheatham County School District

We concur with Finding 6 – The Cheatham County School District did not comply with the State Board of Education policy, state statute, or rules regarding teacher licensing, endorsement, and class assignments, increasing the risk that children are not receiving a proper education. Candidates that were licensing programs were hired previously. This is no longer allowed. Only candidates that have active teaching licenses will be allowed to begin work and only in the respective field of qualification as demonstrated by the license. This change has been noted in the Administrative Procedures that is attached to our policy.

Department of Education

We concur. Compliance with licensure, endorsements, and work assignments begins with, and is the responsibility of, each school district, along with the implementation of appropriate controls and systems. The department's role in this process is oversight. Therefore, the department has assembled a cross-functional team looking across divisions and data systems at the department's internal processes, infrastructure, and guidance to see how we can better support districts in meeting their needs and in providing effective oversight.

Finding 7 – Districts did not have formal hiring procedures, resulting in inconsistent documentation across personnel files

During our review of personnel files to complete work related to licensure, we discovered that neither Cheatham nor Dickson Counties had formal, written procedures outlining the hiring process or the documents needed in personnel files, including documents that serve as support for complying with state education laws or policies and State Board of Education rules or policies. As a result, based on descriptions from the districts' Human Resources personnel regarding the onboarding process and documentation at each district, we found many instances of incomplete personnel files. According to the districts' Human Resources personnel, the files should have included the following documents:

- application,

- transcript,
- Recommendation for Employment,⁴⁴
- declaration/affirmation,⁴⁵
- references,
- Intent to Employ form,⁴⁶ and
- teaching license and Praxis scores (for Cheatham County; Dickson County staff check TNCompass).

During our review, we considered both the dates of hire and the dates that the districts put various documents into use. Specifically, we noted the following did not have complete personnel files:

- Of the 186 Cheatham County educators tested, 104 educators' (67%) personnel files did not contain one or several required documents, including transcripts, licenses, references, Praxis scores, Recommendation for Employment forms, and Intent to Employ forms.
- Of the 127 Dickson County educators tested, 31 educators' (24%) personnel files did not contain one or more required documents, such as applications, transcripts, Recommendation for Employment forms (called Advertise and Hire forms in Dickson County), declarations/affirmations, references, and Intent to Employ forms.

Section 49-2-301, *Tennessee Code Annotated*, states that it is the duty of the State Board of Education to assign to its director of schools the duty to “require all teachers to submit to the director for record their licenses or authority to teach, given by the state board, and keep a complete record of same.” Additionally, the law also requires the director of schools to “file all contracts entered into with teachers and employees of the board, before they begin their services in the public schools.”

The U.S. Government Accountability Office's *Standards for Internal Control in the Federal Government* is considered best practice for governmental entities. Section 3.10 and 3.11 state

Effective documentation assists in management's design of internal control by establishing and communicating the who, what, when, where, and why of internal control execution to personnel. Documentation also provides a means to retain

⁴⁴ A school principal submits the Recommendation for Employment form to recommend that the district offers a job to a candidate following the principal's interview.

⁴⁵ Candidates complete a declaration/affirmation, which includes responses to questions about their personal, professional, and criminal history.

⁴⁶ For the Dickson County School District, the Intent to Employ form is the contract between the teacher and the district. The Cheatham County School District participates in collective conferencing, where the board of education and employees or their representatives negotiate matters related to employment, and the resulting agreement serves as the contract. The Intent to Employ form contains terms of employment, however, so it is retained in the employee's file.

organizational knowledge and mitigate the risk of having that knowledge limited to a few personnel, as well as a means to communicate that knowledge as needed to external parties, such as external auditors.

Management documents internal controls to meet operational needs. Documentation of controls, including changes to controls, is evidence that controls are identified, capable of being communicated to those responsible for their performance, and capable of being monitored and evaluated by the entity.

Based on responses received from the Cheatham County Director of Schools and the Supervisor of Human Resources, Student Services, and Policy, procedures changed over time and this made it difficult to produce similar documents for individuals who could have been hired up to 25 years ago. We did, however, consider employees' hire dates and dates when various documents were placed into operation. For example, if the district began using a document in 2015 and this document was not included in the file of a teacher hired in 2005, we did not count this as an error.

According to the Dickson County Director of Schools, educators who were hired under a different administration and the introduction of electronic records in TNCompass both pose challenges. He noted, however, a discrepancy between physical and electronic records, and currently there is no written procedure to distinguish where such records are maintained.

Documentation of the onboarding process is critical to ensure that all procedures are carried out and all laws, rules, and policies are met. The documentation is evidence that districts verified candidates are qualified to teach or serve in other licensed, certified positions within schools. When those procedures are not carried out, unqualified or unlicensed personnel may end up in teaching positions. Additionally, when the process is not documented, the risk increases that district staff may not have carried out all procedures in hiring educators.

Recommendation

Tennessee Department of Education

The Department of Education's Commissioner should work with appropriate staff to develop policies and procedures and provide training to ensure that districts are performing due diligence in hiring teaching personnel. The Commissioner should also consider performing periodic reviews of districts' hiring documentation during other monitoring visits conducted by department staff.

Cheatham and Dickson County School Districts

Directors of schools should work with the appropriate Human Resources staff to implement written procedures to ensure that all personnel have consistent documentation in the personnel files. Management should consider how to document compliance with formal procedures even as they move toward electronic records. Additionally, staff should document teacher qualifications and endorsements to ensure that all teachers are qualified for their class assignments.

Management's Comment

Department of Education

We concur. Ensuring appropriate and consistent documentation in employee files is primarily the responsibility of the hiring employer, along with the implementation of appropriate controls and systems. The department's role in this process is oversight. Therefore, the department has assembled a cross-functional team looking across divisions and data systems at the department's internal processes, infrastructure, and guidance to see how we can better support districts in meeting their needs and in providing effective oversight, including how to best incorporate this oversight into monitoring being performed by the department.

Cheatham County School District

We concur with Finding 7 – Districts did not have formal hiring procedures, resulting in inconsistent documentation across personnel files. An Administrative Procedure has been written and implemented for all supervisors and principals to adhere to ensure compliance. The Administrative Procedure is attached to this document.

Dickson County School District

We concur. The Director of the Dickson County School System and the Director of Human Resources (HR) have developed in August 2018 an Internal Control Manual to formalize in writing the hiring process and the collection of documents for employee personnel files. The document is based upon 6 Guiding Principles for the HR Office, and specify responsibilities within the HR department {Hiring, Onboarding, Supervision, Conduct, Exiting, Controls, Security, and Training}.

Furthermore, the Personnel File Inventory Checklist was revised in August 2018. This checklist details required documentation for pre-employment and employment intake. This checklist designates the location of physical storage of all eighteen (18) items which are collected on each employee.

Observation 1 – Department of Education management lacks a system for monitoring Tennessee school districts' compliance with licensing statutes, rules, and regulations, specifically those regarding endorsements and work assignments

Due to divisional and systems challenges, Department of Education management does not have a system to monitor Tennessee school districts' compliance with licensing statutes, rules, and regulations, specifically those regarding endorsements and work assignments. As a result, as we noted in **Finding 6** that districts did not comply, and the department did not have mechanisms in place to detect the noncompliance.

Currently, department personnel in different divisions handle the responsibilities for the various components of compliance—licensing, endorsements, work assignments, waivers,

permits, and employment standards. Based on discussions with staff, each individual working on a portion of the process was knowledgeable about his or her assigned role; however, they had limited or no knowledge of the other parts of the process. Currently, the department lacks a formalized process to provide oversight of teacher licensing issues, and, as a result, the department lacks a cohesive effort to identify district noncompliance.

Additionally, the department has faced challenges with the limitations of older computer information systems and applications. The various components of compliance noted in this section are also housed in different applications, and not all information can be shared among applications. Recently, the department has moved information related to permits and waivers into TNCompass, but information regarding class schedules and employment standards are housed in different applications. In October 2018, the Senior Project Manager of Policy and Operations stated that the department is working to move employment standards into TNCompass by the end of the year. With centralized information in TNCompass, the opportunities to develop automated processes to check for noncompliance increase.

Section 49-1-201(a), *Tennessee Code Annotated*, requires the Commissioner to implement the law or policies established by the General Assembly or the State Board of Education. Additionally, Section 49-1-201(c), *Tennessee Code Annotated*, states that the Commissioner shall provide direction through administrative and supervisory activities to build and maintain an effective organization, including seeing that school laws and board regulations are faithfully executed.

When there is insufficient oversight, there is an increased risk of noncompliance with statutes, rules, and regulations governing critical components of teacher licensure and work assignments. The districts are responsible for complying with all state education laws or policies, as well as State Board of Education and Department of Education rules or policies; however, unless there is a system of oversight, the department has no assurance that districts or schools have implemented these laws, rules, and policies.

The Commissioner should assign responsibility for teacher licensing oversight, including oversight of teacher work assignments, to a specific team. Additionally, the team charged with this responsibility should work with the Information Systems division and vendors, as needed, to develop an automated process that can compare teacher license and endorsement information with the teacher's class assignments, with parameters to account for the various rule exceptions, and produce an error report. The Commissioner should work with staff to create formal procedures to ensure that errors are properly investigated and that districts are held accountable for noncompliance. Furthermore, until this system can be developed and implemented, the Commissioner should work with departmental staff conducting monitoring at the districts, including Internal Audit, to incorporate a check of teacher qualifications and work assignments as part of the department's periodic reviews of the districts.

MATTER FOR LEGISLATIVE CONSIDERATION

This performance audit identified the lack of oversight in teacher qualifications, an area critical to student success. Until department management develops and implements a system to provide teacher license endorsement and work assignment oversight, the legislature may wish to consider statutory changes to improve transparency of teacher qualification information at the district and school level, including requiring schools to publicly report information concerning teacher licensure endorsements and class assignments. This information should be sufficient for parents and other concerned stakeholders to determine that teachers are qualified.

EDUCATOR PREPARATION PROGRAMS

Educator preparation providers (EPPs) are organizations, like colleges and universities, that receive approval from the State Board of Education to provide educator licensure programs to teacher candidates in Tennessee. All EPPs must meet the board's standards to receive conditional and full approval to prepare candidates and graduates for licensure in Tennessee. Through its annual Teacher Preparation Report Card, the board evaluates EPPs and a handful of other education-related organizations, such as Teach for America and Western Governors University Tennessee, that have a significant focus in preparing educators. The Department of Education, on the other hand, evaluates EPPs through a comprehensive review process that includes a non-public annual performance report.

Teacher Preparation Report Card

The board's annual Teacher Preparation Report Card is a public report that evaluates the effectiveness of EPPs and other education-related organizations across the state. The report card looks at how well each EPP or education-related organization is doing on a 1 to 4 scale, with 4 as the highest score, across a set of three domains. The board defines these domains as follows:

- **Candidate Profile:** This domain evaluates the provider's ability to recruit a strong, diverse cohort of candidates and students and to prepare them to teach in content areas of greatest need. It measures candidates and students who scored at or above an ACT score of 21 or an SAT score of 1020; have attained high-demand endorsements;⁴⁷ and come from racially diverse backgrounds.
- **Employment:** This domain evaluates a provider's performance in preparing educators to begin and remain teaching in Tennessee public schools. It measures the first-year placement rate, or the number of completers⁴⁸ hired to teach in Tennessee public schools within one year of receiving their initial license, and the beyond year one

⁴⁷ High-demand endorsements include English as a Second Language; Secondary Math; Secondary Science (Biology, Chemistry, and Physics); Spanish; and Special Education.

⁴⁸ The board and the department define a completer as any teacher preparation program candidate or student who has completed licensure requirements and has been endorsed for licensure by his or her preparation provider in one of the cohorts included in the report card.

retention rate, or the number of completers who remain teaching in Tennessee public schools the following year.

- **Provider Impact:** To assess the completers' effectiveness as a teacher in Tennessee public classrooms, the board evaluates the completers' teacher observation scores⁴⁹ and TVAAS⁵⁰ scores.

The report card also provides data on Praxis Principles of Learning and Teaching⁵¹ passage rates, although it is not a scored metric.

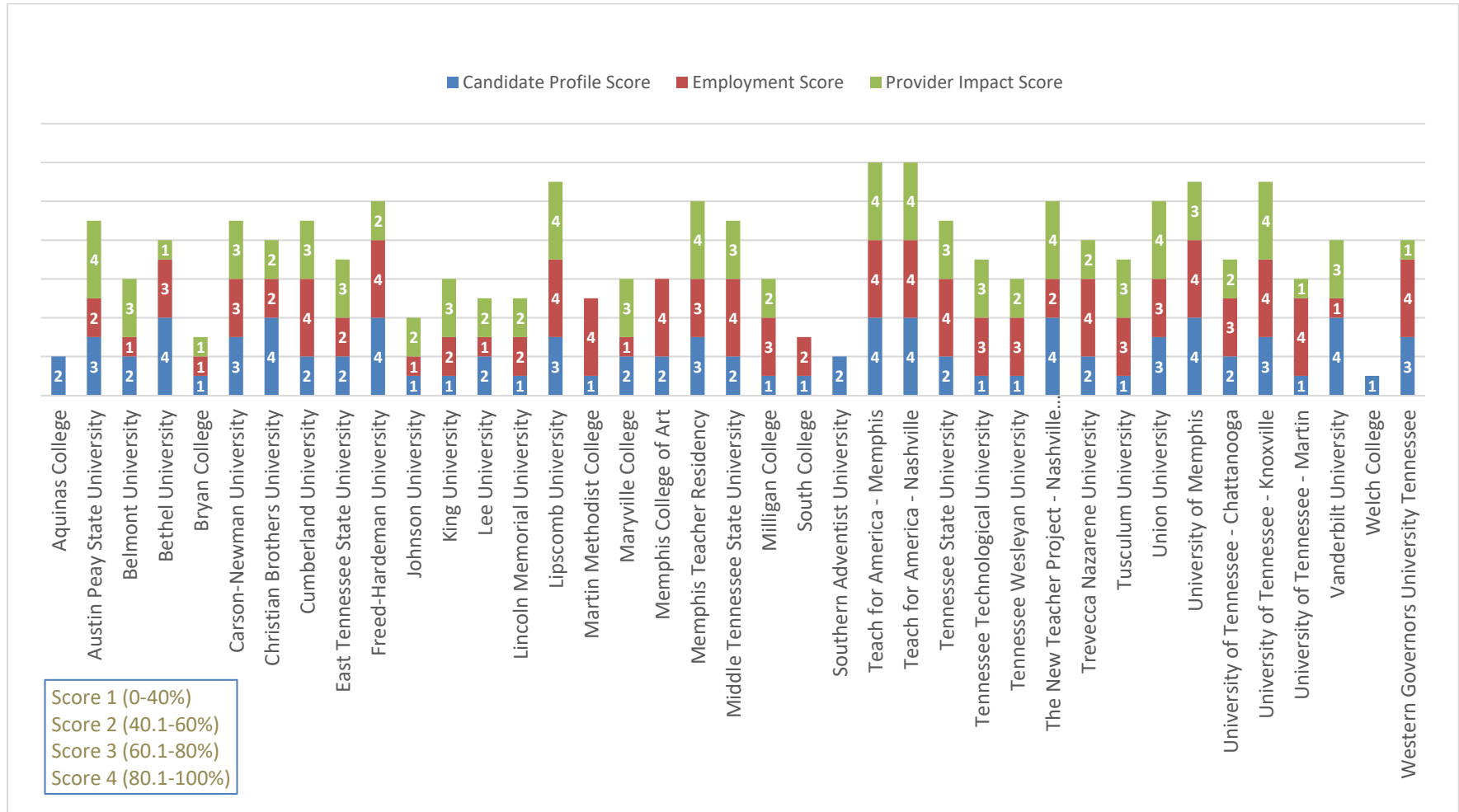
The board's 2017 Teacher Preparation Report Card included 39 EPPs and education-related organizations. Some providers, however, did not receive overall report card scores because they did not have at least 10 program completers, or they did not have enough data to generate a score on at least half of the metrics in each domain. The 2017 report card scores are summarized in **Figure 4**.

⁴⁹ As part of the Tennessee Educator Acceleration Model, teachers are evaluated while in the classroom using multiple observations. Observation scores range from a 1, Significantly Below Expectations, to a 5, Significantly Above Expectations.

⁵⁰ The Tennessee Value Added Assessment System (TVAAS) score is a statistical calculation that is meant to report the impact teachers have on their students' academic progress. TVAAS measures student growth, not student achievement. TVAAS scores range from a 1, Significantly Below Expectations, to a 5, Significantly Above Expectations.

⁵¹ The Praxis Principles of Learning and Teaching assessment is intended to capture aspiring teachers' aptitude for teaching and is required of all teachers seeking licensure in Tennessee.

Figure 4
2017 Teacher Preparation Report Card Domain Scores



Source: 2017 Teacher Preparation Report Card.

Performance Reports

The department's Office of Educator Licensure produces internal annual performance reports⁵² and provides them to EPPs through an online portal called TNAtlas.⁵³ The department uses the annual performance reports to provide oversight and continuous improvement of EPPs. The performance report is an accountability tool that looks at whether an EPP meets expectations or does not meet expectations across the following set of four domains, which are similar to those on the report card:

- **Candidate Recruitment and Selection:** This domain evaluates whether the EPP admitted candidates and students that met the department's admissions standards.⁵⁴ It also evaluates
 - candidates from an underrepresented racial/ethnic group,
 - male candidates, and
 - candidates who receive a high-needs endorsement.
- **Completer Employment and Retention:** This domain evaluates completer/graduate employment and retention, which is based on the percentage of completers/graduates employed in a Tennessee public school for at least two years.
- **Candidate Assessment:** For this domain, the department evaluates whether the EPPs' completers/graduates pass
 - the required pedagogical assessment,⁵⁵
 - a required literacy assessment, and
 - required specialty area assessments.
- **Completer Effectiveness and Impact:** This domain evaluates whether the EPP met the department's minimum expectations of the completers' teaching effectiveness in the classroom based on the completers' data that measures student growth and achievement, including the TVAAS rating.

EPPs have to meet expectations on three of the four domains to meet overall expectations on the performance report. The Completer Effectiveness and Impact domain must meet expectations in order for an EPP to meet overall expectations. The 2017 performance report results are summarized in **Figure 5**.

⁵² The department's annual performance reports are confidential pursuant to Section 49-5-5614, *Tennessee Code Annotated*.

⁵³ Per the department's website, TNAtlas is an online system that is designed to facilitate data-driven, continuous improvement practices and processes for EPPs. TNAtlas provides access to current and historical EPP annual reports.

⁵⁴ The department's admissions assessment looks at average GRE scores; Praxis Core passage rates; and the percentage of candidates with an ACT score of 21 or above, with an SAT score of 1020 and above, and with a 2.75 or higher undergraduate GPA.

⁵⁵ Pedagogical assessments are designed to measure teachers' content knowledge in their field or specialty area. The department includes edTPA and Praxis Principles of Learning and Teaching scores in this metric.

Figure 5
Aggregate 2017 Performance Report Results

	Candidate Recruitment and Selection	Completer/ Graduate Employment	Candidate/ Graduate Assessment	Completer/ Graduate Effectiveness and Impact	Overall Performance
Meets Expectations	28	29	33	30	29
Does Not Meet Expectations	8	4	4	6	6
Not Scored	2	5	1	2	3
Total EPPs	38	38	38	38	38

If an EPP does not meet overall expectations on the annual performance report for two years in a row, the department performs an interim review and reports corrective action. At the time of our review, this accountability piece was new and had not completed two full cycles.

Audit Results

Audit Objective: Do the department and the State Board of Education have adequate measures in place to evaluate the effectiveness of educator preparation providers (EPPs) in producing successful teachers?

Conclusion: The department and the board have adequate processes in place to evaluate and oversee Tennessee's EPPs; however, the board should consider additional communication to help EPPs and the public understand why they chose each report card metric and how those metrics are calculated (see **Observation 2**).

Observation 2 – Additional communication could help educator preparation providers and the public understand why each Teacher Preparation Report Card metric was included and how metric scores are calculated

Educator Preparation Provider Feedback

From a population of 39 educator preparation providers (EPPs) and education-related organizations who had a report card in 2017,⁵⁶ we contacted a judgmental sample of 9 EPPs, 3 from each grand division (4 public universities, 4 private universities, and 1 education-related organization), to gather feedback on the Teacher Preparation Report Card and the annual report and insights tool, as well as general support provided by the State Board of Education and the

⁵⁶ Not every EPP has both a report card and an annual report. We selected our sample from the list of EPPs that had a report card, which was a total of 39. Some EPPs did not have a report card because the program was too new to have data, or the program did not produce enough completers across all metrics to produce a score. Aside from these instances, all EPPs that had a report card would also have had an annual report.

Department of Education. All 9 EPPs agreed that the annual reports and insights tool provide meaningful and actionable data about their programs; they were less in agreement about the Teacher Preparation Report Card, however, with only 2 providers indicating that it provided meaningful and actionable data about their programs. The remaining 7 programs stated that it provided somewhat to no meaningful or actionable data. While the metrics on the report card and annual performance reports are similar, a lot of EPPs did not like that the report card effectively ranks the EPPs against one another. Most of the EPPs expressed concerns with how they are evaluated by the report card, and some EPPs believe that the report card metrics do not actually measure EPP effectiveness at all.

The most common concerns from EPPs about the report card include the following:

- **The Report Card Is Not Representative of EPPs**

Seven of nine EPPs expressed concern that the report card only represents a portion of each EPP's graduates. They stated that the report card does not include EPP graduates that accept teaching positions in other states or in a private school. EPPs are measured on retention and TVAAS metrics based on the number of teachers they have that teach in Tennessee public schools. Some EPPs believe that this is unfair if most of their graduates go on to teach out-of-state or in a private school because these metrics would then not be representative of the EPPs' graduates as a whole. Some EPPs' graduates will not produce a direct TVAAS score (such as teachers who teach early grades or non-tested subjects like art or physical education). These EPPs believe that the department will use the school's TVAAS score to evaluate the program and their graduates, which is beyond the teacher's control.

- **Report Card Calculations Are Unclear**

Seven EPPs also expressed concerns that the report card is too generalized to provide meaningful and actionable data about their programs. Furthermore, they stated that the way scores are calculated for each metric (that is, who is included or excluded in each calculation and how the percentages translate into points) are unclear.

- **Some EPPs Have Concerns About TVAAS Validity**

Four EPPs indicated that they had specific concerns relating to the validity and reliability of TVAAS data, especially considering testing issues that occurred during the 2015–2016 and 2017–2018 school years. Some also questioned whether TVAAS scores have any correlation at all to EPPs. They added that TVAAS is a specific concern because it is the most heavily weighted section of the report card.

- **The Retention Metric Is Limited**

Two EPPs expressed that the report card should provide a three-year or beyond retention metric to see if teachers stay teaching in Tennessee public schools long-term. As one EPP put it, "the retention metric should look beyond three years so that we can be sure we [are not] just putting "a band-aid" on the teacher shortage problem right now."

- **The Diversity Metric Is Limited**

Two EPPs indicated that the geographic location of their programs impacts the diversity level within their pool of candidates and expressed concern about this impacting their score on this metric.

EPPs expressed less concerns regarding the annual performance reports. Most EPPs indicated that they would like the ability to download their data into an Excel file or PDF or to print their data from TNAtlas. They also had similar concerns about TVAAS calculations and how the spring 2018 testing issues would impact the completer effectiveness scores on the annual reports.

Department and Board Responses to EPP Feedback

When we shared these concerns with the department, they responded that the department and the board are responsible for Tennessee public schools and the data on the report card speaks to the performance of Tennessee public school teachers first. The board and the department stated that they would be open to discussing including more data on completers that teach out-of-state or in private schools if the EPPs want to develop a tracking system to do so. They also added that completers with “indirect” TVAAS scores are not included in the report card.

Board staff also showed auditors a tracking spreadsheet that lists the names of every person included in the cohorts on each EPP’s report card. This spreadsheet indicates exactly which person is included or excluded in each metric calculation on the report card. The count of students for each calculation on this spreadsheet matched the count of students reported on the report card for each metric calculation. The board provided these spreadsheets to each EPP for review prior to the report cards’ public release date. The EPPs can use the spreadsheets to confirm which completers are included in each report card metric calculation.

The board plans to release a new report that highlights EPP diversity recruitment efforts in spring 2019, and indicated that they may make some revisions to the diversity metric in the 2019 Report Card. The board stated that it is also open to adding a three-year retention metric to the report card, and the department indicated that it is working on making the data in the report card and insights tool downloadable and printable.

The board and the department are currently engaged in discussions about the impact of TNReady testing issues on both the report card and annual performance reports, and will make a final decision on how to treat TVAAS data from the 2017-18 school year by Dec. 11, 2018, when they present recommendations from the Report Card Advisory Council to the Board’s Subcommittee on Educator Licensure and Preparation. The General Assembly, however, passed legislation in April 2018 that holds teachers harmless for this year’s TVAAS scores resulting from the spring 2018 test administration; it does not include a similar stipulation for EPPs.

Recommendation

The department should continue to collaborate with the board to evaluate the effectiveness of EPPs and provide increased communication with EPPs regarding the results of both their annual

performance report and Teacher Preparation Report Card to help EPPs and the public better understand how they are evaluated.

RESULTS OF OTHER WORK

The Senate Education and House Education Instruction and Programs Committees submitted a written request to the Comptroller of the Treasury to study educator preparation providers. The Comptroller's Office of Research and Education Accountability is tentatively scheduled to release a supplementary report on educator preparation providers and education-related organizations in February 2019.

ACHIEVEMENT SCHOOL DISTRICT FOLLOW-UP

Background

The Tennessee First to the Top Act of 2010 established the Achievement School District (ASD) as a local education agency within the Department of Education's organizational structure. ASD was created as an intervention that the Commissioner of Education may require in order to turn around the state's lowest performing schools.

Section 49-1-614, *Tennessee Code Annotated*, specifically requires ASD to directly operate or contract with entities to manage the day-to-day operations of any or all schools placed under its jurisdiction. Whether ASD operates schools directly or contracts with other entities, ASD maintains authority over the schools in its care for a minimum of five years. After a school shows improvement in student performance for two consecutive years, the Commissioner can develop a transition plan to move the school back to its original local education agency after five years.

Status of Corrective Action of Prior Audit Findings

We released our prior audit of the Achievement School District in August 2016, which resulted in four findings relating to management's lack of controls over

- financial operations,
- human resources payroll processes,
- fiscal monitoring of the schools under its authority, and
- information systems controls.

At the time of that audit, the department allowed ASD to operate autonomously from the department and similarly to a traditional local education agency that is attached to a county or city government. In response to our findings, however, department management took the following steps beginning on July 1, 2016:

- The department took control of ASD's fiscal and federal program operations, including transitioning ASD's accounting system to Edison, the state's accounting system.
- After shutting down ASD's fiscal and program operations, the department hired new fiscal and program staff to perform ASD-related responsibilities previously performed by ASD employees.
- Upon hiring departmental employees, management established new controls, modified existing controls, and tested those controls to ensure the controls effectively addressed the risks in the financial process.
- Personnel files of ASD employees were moved to the department's Nashville office and adhered to the department's processes.
- As of December 16, 2016, management transferred ASD's payroll to Edison.
- To ensure a smooth transition from ASD's accounting system to Edison, management used both systems concurrently until October 2017 to account for fiscal year 2017 transactions. As of July 1, 2017, all of ASD's accounting officially transitioned to Edison.
- Management developed a pilot program to monitor ASD's schools in spring 2017 and fully implemented the program during the 2017–2018 school year.

Current Audit Results

During our current audit, management corrected the findings relating to fiscal monitoring of ASD schools and controls over its information system. For the finding related to controls over key human resources and payroll processes, the transition to Edison's internal control structure allowed management to resolve issues with segregation of duties of human resources and payroll processes; time and attendance; employee performance reviews; and documentation and approval of bonuses and pay raises. We did, however, continue to find deficiencies with management's personnel file documentation, which we describe in the following pages. In addition, although department management implemented its employee offboarding process for ASD employees, they did not obtain documentation that ASD employees returned all ASD-issued items by the employee's last day.

For the finding relating to inadequate internal controls over expenditures, travel claims, and purchasing (payment) card purchases, management's decision to transition to Edison's internal control structure allowed management to correct the expenditure and travel claims approval processes. Although department management relied on its internal processes to correct the actual purchasing card purchases, we found a minor issue with the department's payment card application process.

Audit Results

Audit Objective: Did the department address the recommendations in the prior audit and implement corrective action of all findings relating to fiscal operations, human resources processes, fiscal monitoring of its schools, and information systems controls?

Conclusion: We continued to find problems relating to documentation contained in human resources files (see **Finding 8**).

Finding 8 – After assuming responsibility for the Achievement School District’s employee personnel files, Department of Education management did not maintain all required documentation in the files, including documentation to verify that employees returned property upon separation

Personnel Files Lacked Critical Employment Data

We selected a nonstatistical, random sample of 62 of 228 Achievement School District (ASD) employees hired from July 1, 2017, through March 13, 2018, to determine if the files contained all employment documentation required by the Department of Education. Based on our testwork, we found that for 11 employees (18%), the files did not contain the following documents as required by the department’s “Personnel File Documents” instructions:

- disclosures and authorizations for background check forms;
- last wage and leave beneficiary forms;
- a signed acknowledgement of policies form;
- a basic life beneficiary form; and
- verification of education credentials.

In addition, as we inspected the files, we noticed that files for former employees did not contain the checklist management uses for employee offboarding. Management uses the offboarding checklist to record that separating employees returned state equipment (such as laptops and ID badges) to ASD or the applicable school. After our discovery, we discussed this issue with Human Resources staff and found that the former ASD Human Resources Generalist did not obtain the checklist from the employees’ supervisors or even ask supervisors to complete the form. According to the department’s “Return of State Property Upon Separation” policy, “Upon the effective date of separation, including termination, retirement or resignation, each employee shall return all state property, equipment and materials which were issued during the course of his or her employment.”

The U.S. Government Accountability Office’s *Standards for Internal Control in the Federal Government* (Green Book) provides a comprehensive framework for internal control practices in federal agencies and serves as a best practice for other government agencies, including

state agencies. According to Section 5.03 of the Green Book, “Management holds entity personnel accountable for performing their assigned internal control responsibilities. The oversight body, in turn, holds management accountable as well as the organization as a whole for its internal control responsibilities.”

By not maintaining proper documentation, department management cannot ensure that

- employment records and history are complete;
- employees meet education requirements for their positions; and
- assigned state property is recovered on the employee’s last working day.

Recommendation

Department management should ensure staff follow policies and procedures for obtaining and maintaining all required documentation. Additionally, Human Resources management should review its existing personnel files to ensure that they contain all required documents. Human Resources management should also document all employee actions involving separating employees and ensure that separating employees return all state property.

Management’s Comment

We concur. The Achievement School District (ASD) has undergone a comprehensive review of its current human resources policies and procedures, and has implemented additional controls and segregation of duties as previously recommended.

The ASD in conjunction with the Department has developed a policy outlining the information to be included in each employee’s file (whether paper or electronic) and the ASD and Department’s HR staff will create employee files with all necessary documents. In addition, ASD managers and staff are being trained on proper offboarding procedures for ASD staff, which includes documentation that the offboarding process was completed and all ASD-issued items provided during employment have been returned by the employee’s last work day. Finally, HR management for the ASD is now fully integrated into the department and is directly managed and overseen by the human resources analysts and the Executive Director of Human Resources at the department.

CHILD CARE CENTER INSPECTIONS

Background

Section 49-1-1101, *Tennessee Code Annotated*, requires the Department of Education to review and approve child care centers to make sure they meet education and safety standards set by the State Board of Education. Specifically, state statute requires the department to inspect child care centers under the board’s jurisdiction, including centers with

- before- or after-school child care programs;
- child care programs provided by church-affiliated schools;
- public-school-administered early childhood education programs;
- child care provided in federally regulated programs, including Title I preschools and all school-administered Head Start and Even Start programs;
- state-approved Montessori school programs; and
- child care programs operated by private schools (for example, private schools whose accreditation has been approved by the State Board of Education or the Department of Education).

The department's evaluators perform on-site inspections twice a year within the regions they are assigned. As of April 2018, the department was responsible for inspecting 1,982 child care centers.

Prior Audit Recommendations

In the 2014 performance audit of the Department of Education and the State Board of Education, we found that

- child care center directors did not sign corrected copies⁵⁷ of the annual report;
- the department's previous Director of School-Based Support Services did not make regular field visits to participate in inspections with regional evaluators, nor did the director regularly review evaluation documentation and evaluators' itineraries to ensure evaluations were completed; and
- evaluators were not systematically rotated among regional offices to ensure they maintained independence.

In response to the prior finding, management stated they had made significant improvements in overseeing child care centers and implemented most of the audit recommendations, such as revising the annual report forms. In addition, the department stated it had hired a new Director of School-Based Support Services who would make site visits to child care centers with regional evaluators at least once per year. Finally, management stated they would strive to rotate regional evaluators within the constraints of geography, travel costs, time efficiency, and staffing limits in rural areas. We followed up on management's stated corrective action during this audit.

Department Inspections

By October 1 of each year, child care center operators are required to submit annual reports to the department. The department uses these annual reports to determine whether it will issue the programs a Certificate of Approval to operate. The annual reports include information on staffing

⁵⁷ If a child care program's annual report required revisions, department evaluators were required to, but did not always, obtain the child care program director's signature on the report.

levels, education of staff, ages of children enrolled, staff-to-student ratios, educational services, meals, and transportation. As such, the department's regional evaluators use the reports to serve as the basis for the inspections.

During inspections, the regional evaluators review the staff qualifications; ensure that child care staff have had background checks (including updated checks as required); and perform inspections of playgrounds and classrooms. They also check staff-to-student ratios. If regional evaluators find problems during the inspections, they will conduct a follow-up visit to verify the center has taken corrective actions. Once completed, the regional evaluator sends the results of the evaluation to the department's School-Based Support Services central office in Nashville, where department management randomly selects a number of inspections to examine to ensure that regional evaluators completed their inspections.

Director Site Visits

Since the prior audit, the department hired a new Director of School-Based Support Services. In discussions with us, the director stated that she attends the child care center on-site visits with the regional evaluators at least once a year. The director also stated that she ensures that the regional evaluators inspect the child care centers consistently and based on all required elements of an inspection.

Review of Regional Program Evaluator Work

To ensure inspections are performed, department management sends quarterly surveys to randomly selected child care centers to obtain feedback about the inspection process and other services offered by the regional evaluator. In addition, the Director of School-Based Support Services implemented a process to review the regional evaluators' work. Once a month, a program evaluator from the department's central office randomly selects a day in the previous month. Next, the program evaluator emails a request to all regional evaluators to provide the inspections, follow-ups, and paperwork completed for that selected day so that the program evaluator can review the documentation, as well as the regional evaluators' calendars to ensure that the inspections were completed as required.

Regional Program Evaluator Assignment Rotations

According to the Director of School-Based Support Services, prior to her hiring, regional program evaluators rarely rotated their inspection assignments to avoid the appearance of conflicts of interest that may arise as evaluators continually work and build relationships with child care center staff. Since the prior audit, she added 4 additional regional program evaluators, for a total of 22, and implemented assignment rotations where possible. Although evaluators assigned to urban areas are rotated, rural areas pose a challenge. The director provided us with maps and evaluator assignments from school years 2014 to 2018 for our analysis.

Audit Results

Audit Objective: Did the Director of School-Based Support Services improve the monitoring process by addressing the recommendations in the prior audit finding and implementing corrective action?

Conclusion: Although the director improved the child care center inspection process, we found instances where management could improve its process of reviewing regional program evaluators' work. See **Observation 3**.

In addition, we found that the director had not fully corrected the deficiency noted in the prior audit that addressed rotating program evaluation staff. See **Observation 3**.

Observation 3 – If possible, the Department of Education should continue reviewing regional evaluator staff assignments to ensure the assignments are rotated periodically to avoid conflicts of interest, and it should consider adding procedures to enhance its review of regional evaluators' work

Based on our sample testwork of 50 child care centers, we found no issues with regional evaluator assignments; however, we recommend that management consider the following areas to improve internal processes.

Reviews of Regional Evaluators' Work

During our testwork, we interviewed the central office program evaluator, who reviews the regional evaluators' work, and determined that he

- does not perform unannounced reviews of inspection reports; and
- does not use a random number generator to select a date to review inspection documentation to minimize the risk of staff detecting patterns with date selection.

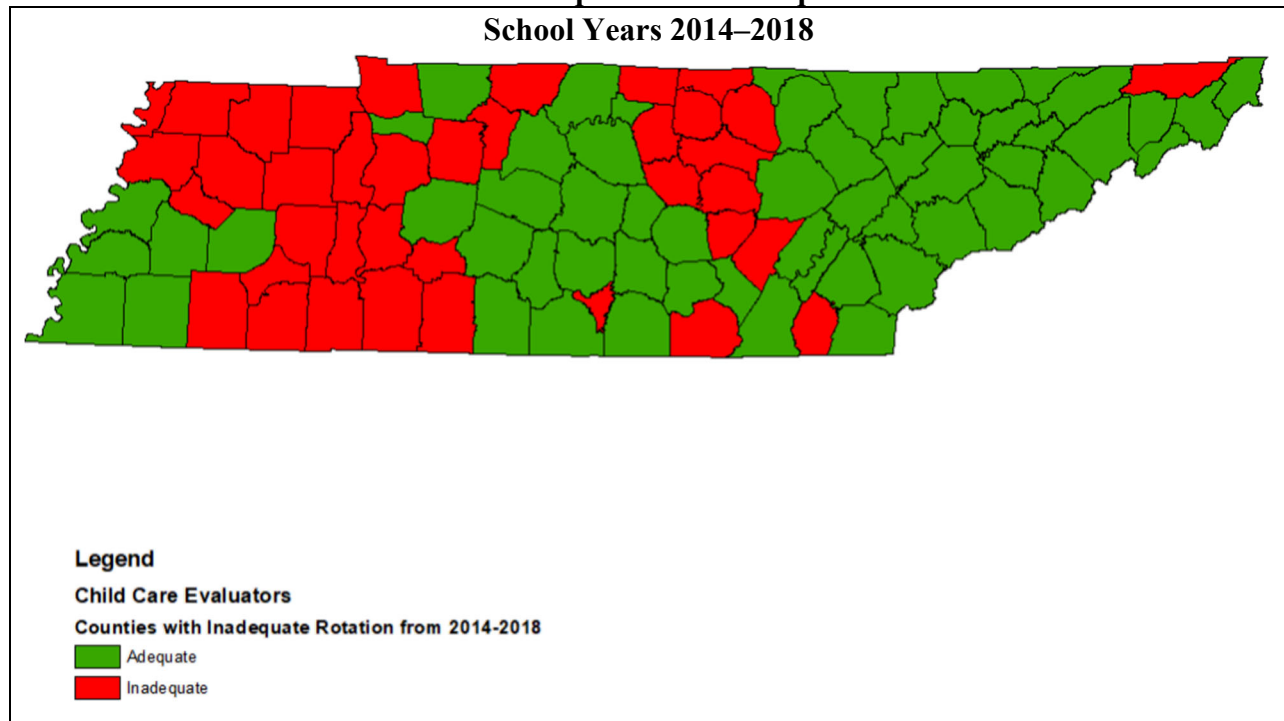
In addition, the Director of School-Based Support Services did not have a formal process to document her site visits to review program evaluators' work. She provided us with her calendar, expense reports, and documentation to demonstrate that she was present at the child center centers; however, the director should implement a formal on-site review process to ensure that regional evaluators conduct evaluations appropriately.

Regional Evaluators' Inspection Rotations

By rotating regional evaluators to different geographic areas, management ensures that the evaluators maintain independence and provide different perspectives during site visits. We reviewed the evaluators' county assignments for the school years 2014–2015 through 2017–2018. Based on our review, management rotated evaluators in 60% of counties, including Davidson and Shelby Counties, but existing resources and additional costs impacted the ability to rotate regional evaluators

in rural areas. See **Figure 6**. The Department of Education should continue its efforts to ensure that program evaluators are continually rotated within reasonable limits.

Figure 6
Child Care Evaluators
Counties With Adequate and Inadequate Rotation
School Years 2014–2018



Source: Department of Education management.

LOCAL EDUCATIONAL AGENCIES' SELF-REPORTED STUDENT DATA

Background

Various state statutes, *Rules of the State Board of Education*, and Department of Education policies and procedures require school districts to provide self-reported student data to the department. This data includes, but is not limited to,

- each school's average daily membership (known as a school census);
- grade point average;
- count of English language learners;
- demographic information;
- enrollment counts by program and subject area; and
- teacher accountability and student assessment information.

Our 2011 and 2014 performance audits of the department found that “the department does not have a centralized process to verify local education agencies’ self-reported data for annual school approvals.” As recommended in the 2011 performance audit, the department’s Internal Audit Division began annual audits of local education agencies’ (LEA) self-reported data. These audits focused on various state laws and board rules, such as average daily membership, graduation credits, employee background checks, and reported grade point averages, to ensure that LEAs complied with state law and board rules. In 2017, however, Internal Audit placed these audits on hold due to limited resources. Based on our current audit, the hold was still in place, and the department continues to rely on self-reported LEA data.

Current LEA Reporting and Department Decision-making Process

All public schools in Tennessee submit student data to the department using their LEA’s student information system, which is connected to the department’s Education Information System. The department established business rules that govern data the LEAs must provide and the submission schedule, but it is the LEAs’ responsibility to ensure the submitted data is correct. Following each submission, the superintendent signs a form attesting to the data’s accuracy. Because the department uses the data as the basis for LEA funding, LEAs regularly update the information. According to department management, nearly every departmental division reviews and uses the LEA data in some capacity to meet the department’s mission. To assist department management in LEA data management, the department hired an individual in 2016 to oversee a data governance group. This group reviews the LEA data using continual quality analysis and internal business rules to look for anomalies and then contacts the impacted LEAs to correct them. Department staff cannot edit the submitted data, requiring department staff to maintain frequent contact with LEAs to correct any inaccuracies.

In addition, school directors must submit an annual compliance report to the department certifying that the LEA complied with all state education statutes and board rules.

The department, in turn, uses the LEA data for

- funding allotments for the Basic Education Program;
- allocating resources for career and technical education, English language learners, and special education;
- monitoring LEAs’ teaching resources at each school;
- assessing students’ academic progress at the grade level;
- collecting an enrollment census at individual schools; and
- obtaining accountability results for teacher evaluations.

Audit Results

Audit Objective: Did the department resolve the previous repeat finding relating to the verification of LEA-submitted data?

Conclusion: Although the department made significant improvements to verify LEAs' self-reported data, the department should consider a more in-depth verification of data elements at the LEA level (see **Observation 4**).

Observation 4 – Although various Department of Education staff review and analyze data submitted by local education agencies, department management should revisit its efforts to verify data accuracy through district-level reviews

Through its data governance group, the Department of Education instituted a variety of processes to attempt to verify the accuracy of the local education agencies' (LEA) data. The department's student information system has built-in controls to reject data that is miscoded or violates business rules. Internal Audit had not reviewed LEA-submitted data as part of its regular audit schedule in over a year, and the department does not own the data that the LEAs provide, which limits the department's ability to make edits or correct submission errors.

While the department has recognized LEA data verification as an area that needs to improve, the department should assess LEAs' data, using a risk-based analysis, to determine which data elements require additional review at the district level. The department should incorporate this review into an annual audit cycle.

Energy Efficient Schools Council and Tennessee Public Television Council



ENERGY EFFICIENT SCHOOLS COUNCIL

Background

Created as part of the Energy Efficient Schools Initiative of 2008 (Section 49-17-101 et seq., *Tennessee Code Annotated*), the Energy Efficient Schools Council⁵⁸ awards grants and loans to local school districts for capital outlay projects that meet established energy-efficient design and technology guidelines for school facilities in an effort to reduce energy costs. According to Section 49-17-103, the council has 12 members, consisting of

- the Commissioner of Education;
- the Commissioner of Environment and Conservation;
- the Commissioner of Economic and Community Development;
- the Governor's appointees:
 - one member representing local governments;
 - one member representing school systems; and
 - one member representing the natural gas and oil heating industries;
- the Speaker of the Senate's appointees:
 - one member "who may be appointed from lists of qualified persons submitted by interested contractor groups, including, but not limited to, the board for licensing contractors";
 - one member representing local school systems; and
 - one member representing the Oak Ridge National Laboratory (an ex-officio, non-voting member); and
- the Speaker of the House's appointees:
 - one member "who may be appointed from lists of qualified persons submitted by interested architectural and engineering groups, including, but not limited to, the board of examiners for architects and engineers";
 - one member representing local governments; and
 - one member representing the Tennessee Valley Authority (an ex-officio, non-voting member).

The council appointed an executive director and employs a deputy director. Pursuant to Section 49-17-103, the council is administratively attached to the Department of Education, although the department is not involved in the council's day-to-day operations.

Section 49-17-103 also established the council's Technical Advisory Committee, whose duties include establishing "energy efficient design and technology guidelines for all kindergarten

⁵⁸ The council may also be referred to as the Energy Efficient Schools Initiative (EESI).

through grade twelve (K-12) school facilities” and reviewing projects funded by the council. The Technical Advisory Committee is composed of the council members representing the Tennessee Valley Authority and the Oak Ridge National Laboratory, plus five members with engineering and energy efficiency backgrounds. The council approves the guidelines developed by the committee.

Project Funding Process

To fund the council’s grants and low-interest loans, the Energy Efficient Schools Council Fund was established on July 1, 2008, through a transfer of \$90 million from the Lottery for Education Account reserve and the Lottery for Education special reserve account for K-12 capital outlay. According to management, currently, the council sets aside funds for grants for emergency situations, such as the Sevier County fire in 2016. Since 2016, the council puts as much money as possible into the loan program. We, however, focused our audit efforts on the council’s loan program.

To apply for an energy-efficient schools loan, local governing bodies and the school district must submit a loan application to council staff. The application includes a project narrative that describes how the project’s plan will save energy; the contact information of the contractor who will perform the work; and a summary of work to be performed, including the related costs. It must be signed by the school district directors; the school board chair; and, if the applicant is not a special school district, the jurisdictional county or city mayor. Once the council receives the completed application, council staff examine the supplied documentation for completeness and forward it to the Technical Advisory Committee. The committee reviews the loan application, comments on the project’s feasibility, and determines if the project will result in sufficient savings to justify the cost of the loan. The committee sends a recommendation to the council to approve or deny the loan. If a loan is approved, the school district must provide progress reports as needed during the project to obtain funds, and, upon project completion, the district must submit a commissioning report to the council. This detailed report explains how the newly installed energy efficient technology operates and how it is maintained.

As a revolving fund, the repayment of loan principal and interest replenishes the Energy Efficient Schools Council Fund in order to fund future projects. According to the *Energy Efficiency Schools Initiative: Annual Report FY2017*, the council has disbursed over \$99.3 million in energy-efficient grants and loans to the state’s local school districts and has saved over \$36 million in energy costs, as of end of fiscal year 2017. Since its inception, the council issued \$19,795,952 in grants and \$105,568,194 in loans, as of April 2018. The council approved five loans in calendar year 2017, totaling \$13,539,748. As of February 2018, the fund balance totaled \$24,820,081. In 2018, the General Assembly provided the fund with an additional \$11 million.

Audit Results

Audit Objective: Did the Energy Efficient Schools Council follow its loan procedures to approve and issue loans to local school districts?

Conclusion: Based on audit work performed, we found that the council has operated under proposed rules since its creation and did not follow these proposed rules as written (see **Finding 9**).

In addition, the council does not have legal counsel for assistance with contracts, loans, and the rulemaking process (see **Observation 5**).

Finding 9 – The Energy Efficient Schools Council has operated under proposed rules and regulations since its inception in 2008 and did not follow the proposed rules as written

Rulemaking Authority

Section 49-17-104, *Tennessee Code Annotated*, requires the Energy Efficient Schools Council to

promulgate rules, regulations and policies the council deems necessary to further the purposes and duties of the energy efficient schools council as defined in [Section 49-17-103] and this section. Any rules and regulations proposed by the council shall be promulgated in accordance with the Uniform Administrative Procedures Act, compiled in title 4, chapter 5.

While reviewing the rules and regulations for the Department of Education, we found that the council did not have approved rules and regulations governing its responsibilities. The Executive Director stated that the council approved proposed rules and regulations and provided them to the Office of Attorney General for review before 2010, but council management had not done anything since then. As a result of our discussion with management, they restarted the rulemaking process. The Joint Committee on Government Operations approved the council's rules in June 2018.

Results of Audit Work

We conducted 2 file reviews, 1 involving the 5 loans the council approved in calendar year 2017 and 1 involving the 10 loans with projects completed during the same period. Based on our review, we determined that the council did not follow its proposed rules for loan approval signatures and commissioning reports when projects were completed.

Loan Signatures

Pursuant to the proposed *Rules of the Energy Efficient Schools Council*, Rule 0520-13-01-.05,

Eligible loan applicants must submit a completed and signed loan application to EESI [Energy Efficient Schools Initiative] in order to qualify for consideration for loan funds. The loan application and any loan agreement must be signed by the School District Director; School Board Chair; and, if the applicant is not a special school district, the jurisdictional County or City Mayor.⁵⁹

For the 5 loans approved in calendar 2017, totaling \$13,539,748, council management did not ensure the loan applications contained all required signatures. For 4 loans, which were not for special school districts, the applications only contained the mayor's signature, not the school district director's or school board chair's. For the loan involving a special school district, the application was signed by the school board chair but not the school district director.

Commissioning Reports

Proposed Rule 0520-13-01-.08 requires that all projects reaching completion "must be professionally commissioned and a commissioning report submitted to EESI." Commissioning reports describe the system processes to verify and check controls and show school staff how to find and fix errors. Commissioning reports include such information as systems involved, related equipment, and the testing of that equipment.

For the 10 projects completed in calendar year 2017, totaling \$1,350,201, only 5 had commissioning reports. Council management stated that they have no official policy regarding the specific requirements for commissioning reports. Furthermore, management also stated that because these 5 projects involved lighting systems, the district did not have to submit a commissioning report. Management asserted that the reports are not required on lighting projects because lighting either works or does not work; however, the proposed (and now approved) rules, as written, do not allow for exceptions.

Because the council operated under proposed rules and regulations when it approved these loans, it increased the risk that projects would contradict the final rules and regulations once they were approved, resulting in exposure to lawsuits. Furthermore, not ensuring that rules are followed as they are written increases the risk of the council approving loans without the school district's proper consent or without required reports, creating possible issues for the council when loans enter repayment.

Recommendation

The council should ensure that its final approved rules and regulations are comprehensive and complete, including exceptions to the rules, and should pursue amendments to the rules as needed. For all future loan applications, management should ensure that all approvals are based on the final approved rules.

⁵⁹ We compared the proposed rules to the rules approved in June 2018 and found no differences.

Management's Comment

We concur with the audit finding.

Background: EESI was created in 2008. The charter members were responsible for hiring an executive director and awarding grants or loans in accordance with Section 49-17-103. General Council for the Department of Education with assistance from the Office of the Attorney General developed the administrative framework for the program. Initially the Council made grants for prescriptive projects, where Districts could select from a list of approved energy efficient projects. In 2010 the Council initiated a loan program in order to fund custom projects that could combine a number of energy conserving measures into one project.

EESI records indicate that original loan rules were developed, submitted and approved by the Office of the Attorney General in 2010. The promulgation of rules process stopped at that point and no further evidence exists that those rules were brought before the Joint Operations Committee or incorporated into the EESI application process or the Loan Agreement prior to 2013.

In 2013, a new executive director joined the agency which had all of its programs up and running, and most of its funds were tied up in loans made supposedly in accordance with extant loan rules. During the performance audit it was found that the rules had never completed the full promulgation process. At that point the rules and regulations were updated, approved by the Council, and promulgated in accordance with the Uniform Administrative Procedures Act.

Results of Audit Work

Loan Signatures: Eligible loan applicants must submit a completed and signed loan application to EESI in order to qualify for consideration for loan funds. The loan application and any loan agreement must be signed by the School District Director; School Board Chair; and, if the applicant is not a special school district, the jurisdictional County or City Mayor.

EESI Response – We concur with the audit finding that EESI did not get all the signatures on the referenced applications in accordance with the proposed Loan Rules and Regulations.

Background - Except for special school districts, which have their own taxing authority, all loans for the benefit of public school districts must be made to the district's jurisdictional authority (municipal council or a county commission). Our loan contract requires passage of a resolution by the jurisdictional body, and must be signed by the mayor thereof.

Generally applications are submitted by a district director based upon the recommendations of his/her facilities manager or chief financial officer. In the majority of cases the district does not want to approach their jurisdictional authority about a loan until they have secured ample evidence that the project will self-fund through actual energy savings.

EESI is responsible for making sure that the proposed energy conservation measures will generate annual savings in the current utility spend to repay the loan on an annual basis for the term of the loan. Staff routinely works with the district to educate local government officials as to

how the loan program works. We also assure them that EESI will oversee the project to make sure the projected savings are realized.

We will enforce the rules in force regarding this issue while we work to devise a process that suits the needs of all concerned. EESI will then apply to amend the loan rules to conform as needed.

Commissioning Reports: Proposed Rule 0520-13-01-.08 requires that all projects reaching completion “must be professionally commissioned and a commissioning report submitted to EESI.” Commissioning reports describe the system processes to verify and check controls and show school staff how to find and fix errors. Commissioning reports include such information as systems involved, related equipment, and the testing of that equipment.

EESI Response – We concur that our current rule on commissioning is not being enforced exactly as written. We plan to amend the rules to exempt lighting projects from the commissioning rule.

Background - Commissioning is a process completed after HVAC and building automation systems are installed as a part of a project. Simply stated, it is a point-to-point testing procedure that verifies that all of the elements in the system are installed and are working properly under normal operating conditions. Failure of any one component in a system can keep the total system from operating in accordance with the designed energy efficiencies.

Lighting systems have three basic components, switch, wire, and lamp. If the lamp on any given system are switched on and fail to illuminate, the contractor must resolve the problem prior to acceptance of the project by the owner. Final inspections are made on all lighting systems by TVA, and a report is submitted to EESI for verification that each system was installed in accordance with the approved project.

Observation 5 – The Energy Efficient Schools Council does not have legal counsel

Although the Energy Efficient Schools Council is administratively attached to the Department of Education, council management stated, and the department’s General Counsel confirmed, that the department’s legal staff do not provide the council with legal guidance. According to the department’s General Counsel, the council has a governing body and its own decision-making processes. The General Counsel stated that she advised the council’s previous Executive Director that he had the authority to hire or contract legal counsel, but he never has. She said that the council wanted the department’s legal office to review its contracts, but she informed the council that, because the Commissioner of Education neither approves nor signs the council’s contract, she did not feel it was appropriate to review them.

Considering that the council oversees projects and related contracts totaling millions of dollars, the council’s access to legal counsel is crucial in areas such as contracts, loan agreements, and the rulemaking process. Council management should either consider contacting the Attorney

General's Office for any assistance that office might be able to provide or hire its own legal counsel.

Management's Remarks

EESI appreciates the observation and will follow the recommendations contained in the audit report. The Department of Education office of the General Counsel was involved in the establishment of EESI, but now declines to provide assistance to us. Staff has already initiated contact with Office of the Attorney General to explore the opportunities that they may provide.

TENNESSEE PUBLIC TELEVISION COUNCIL

When passed into law, the Tennessee Public Broadcasting Act of 1984 (Section 49-50-901 et seq., *Tennessee Code Annotated*) brought about "the orderly transfer of licenses and operational responsibilities for state-owned educational television stations to appropriate local community agencies, and to encourage the further development of public television broadcasting in Tennessee." The Tennessee Public Television Council began as a registered 501(c)6 nonprofit corporation under the name of the Tennessee Broadcasting Council in 1982. The Public Broadcasting Act established the Tennessee Public Television Council in 1984, and the nonprofit adopted the new name. The council, however, was clearly created by legislation passed by the General Assembly and was also given the authority to make recommendations on policy or administration to a public body. Specifically, the council is responsible for

- coordinating and facilitating cooperation between Tennessee public television stations;
- acting as liaison between the stations and the legislative and executive branches of government; and
- submitting annual reports including the services it provided, as well as requests for appropriations to the Governor and the appropriate committees of the General Assembly.

Council members consist of the general manager of each of the following major public television stations in Tennessee:

- WKOP – Knoxville,
- WETP – Sneedville (WKOP satellite transmitter),
- WCTE – Cookeville,
- WNPT – Nashville,
- WKNO – Memphis,
- WLJT – Lexington/Jackson, and
- WTCI – Chattanooga.

In addition to the general managers, the council retains a legislative consultant to lobby the Governor's Office and the General Assembly on the council's behalf. The council also uses an accounting firm to manage its accounts. It employs no other staff to carry out its responsibilities.

The council is primarily funded by member station dues and contracts with the state to provide public information to its viewers. The council received \$322,683.01 in revenue for fiscal year 2017. Pursuant to Section 49-50-909, *Tennessee Code Annotated*, the General Assembly appropriates funds that the Department of Education disburses directly to the council's member stations. In fiscal year 2016, the General Assembly appropriated \$2,786,800 in grants to the council on behalf of the television stations. According to state statute, the council establishes the funding formula used to divide the appropriation amongst member stations. The council last updated the funding formula in 1990; based on this formula, the six stations each receive 15.46% and the satellite transmitter (WETP in Sneedville) receives 7.25%. Prior to the addition of the satellite station, the direct appropriation was equally divided between the original six stations. Each station's portion for the last three years is exhibited in **Table 9**.

Table 9
State Appropriations to Public Television Stations for Fiscal Years 2016 Through 2018

Station	FY 2016	FY 2017	FY 2018
WKOP	\$430,793	\$430,793	\$430,793
WETP	\$202,042	\$202,042	\$202,042
WCTE	\$430,793	\$430,793	\$430,793
WNPT	\$430,793	\$430,793	\$430,793
WKNO	\$430,793	\$430,793	\$430,793
WLJT	\$430,793	\$430,793	\$430,793
WTCI	\$430,793	\$430,793	\$430,793
Total Appropriation	\$2,786,800	\$2,786,800	\$2,786,800

Source: Department of Education management (unaudited).

Although the department acts as a pass-through entity for the television station appropriations, the council is not administratively attached to the department, and the department provides no additional support to the council. Furthermore, the council is registered as a 501(c)6 nonprofit corporation with the Tennessee Secretary of State's Office.

Audit Results

Audit Objective: Has the Tennessee Public Television Council met its statutory requirements?

Conclusion: Based on our audit work, the council has met its statutory responsibilities as outlined in the Tennessee Public Broadcasting Act; however, as a state-created entity that receives significant funding from the state, the council should but has not followed the Tennessee Open Meetings Act (see **Observation 6**).

Observation 6 – The Tennessee Public Television Council did not follow the Tennessee Open Meetings Act, as required

Section 8-44-102, *Tennessee Code Annotated*, requires that all “meetings of any governing body are declared to be public meetings open to the public at all times, except as provided by the Constitution of Tennessee.” A “governing body” includes

- (A) The members of any public body which consists of two (2) or more members, with the authority to make decisions for or recommendations to a public body on policy or administration . . . ;
- (B) The board of directors of any nonprofit corporation which contracts with a state agency to receive community grant funds in consideration for rendering specified services to the public; provided, that [sic] community grant funds comprise at least thirty percent (30%) of the total annual income of such corporation . . . ;
- (C) The board of directors of any not-for-profit corporation authorized by the laws of Tennessee to act for the benefit or on behalf of any one (1) or more counties, cities, towns and local governments . . . ;
- (E) (i) The board of directors of any association or nonprofit corporation authorized by the laws of Tennessee that:
 - (a) Was established for the benefit of local government officials or counties, cities, towns or other local governments or as a municipal bond financing pool;
 - (b) Receives dues, service fees or any other income from local government officials or such local governments that constitute at least thirty percent (30%) of its total annual income; and
 - (c) Was authorized as of January 1, 1998, under state law to obtain coverage for its employees in the Tennessee consolidated retirement system.

Section 8-44-102 defines a “meeting” as “the convening of a governing body of a public body for which a quorum is required in order to make a decision or to deliberate toward a decision on any matter.” A meeting, however, is not any on-site inspection of a project or program, nor is it a chance meeting of members of a governing body.

Tennessee Public Television Council members asserted that the council does not have to abide by the Tennessee Open Meetings Act because of its status as a nonprofit corporation. The council, however, was clearly created by legislation passed by the General Assembly and was also given the authority to make recommendations on policy or administration to a public body. Specifically, the council

- acts “as liaison between the stations and the legislative and executive branches of government” (Section 49-50-905, *Tennessee Code Annotated*);

- “has the responsibility for submitting budgetary requests for appropriations for the stations to the governor and the proper committees of the general assembly” (Section 49-50-909); and
- provides the Commissioner of Education a grant formula to make grants to eligible television stations (also Section 49-50-909).

The council is also obligated to adhere to the Tennessee Open Meetings Act as a nonprofit corporation because it receives more than 30% of its revenues from a contract with the General Assembly. For example, for calendar year 2018, the General Assembly granted the council a contract for \$200,000 for “the provision of broadcasts to the television viewing public of live and tape-delayed sessions of the House of Representatives and the Senate.” These funds constituted 57% of the council’s fiscal year 2018 budget of \$348,770.

In Section 8-44-101, *Tennessee Code Annotated*, the General Assembly declared that the intent of the Tennessee Open Meetings Act is “to be the policy of this state that the formation of public policy and decisions is public business and shall not be conducted in secret.” Without meetings that are accessible to the public, the council has not met its obligations under the Act.

The council was created in part to facilitate the transfer of licenses and operational responsibilities for state-owned educational television stations to appropriate local community agencies by 1986. It was also created to coordinate and facilitate cooperation between Tennessee public television stations; to act as a liaison between the stations and the legislative and executive branches of government; and to submit annual reports of services provided and requests for appropriations. The council has fulfilled these requirements but stated that it does not follow the Tennessee Open Meetings Act because it operates as a nonprofit organization. It is our recommendation that, as required by Sections 8-44-103 and 8-44-104, *Tennessee Code Annotated*, the council should make all meetings open to the public, provide adequate public notice of meetings, record meeting minutes, and make any votes public. The council should consider contacting the Comptroller’s Office of Open Records Counsel for any necessary guidance with open meeting requirements.

APPENDICES B

APPENDIX B-1 Educator License Types

Teacher

There are two types of teaching licenses for individuals seeking academic teaching opportunities in Tennessee schools:

- Practitioner – Initial three (3) year license issued to applicants who hold a bachelor's degree, are enrolled in or have completed a preparation program approved by the State Board of Education, and have verified content knowledge as defined in state board policy. An educator may add additional endorsements to a practitioner license. The practitioner license may be renewed once.
- Professional – A six (6) year teacher license issued upon completion of an approved educator preparation program and meeting specific licensure expectations and requirements at the practitioner level. An educator may add additional endorsements to a professional license. The professional license is renewable.

Occupational Teacher

There are two types of licenses for individuals seeking occupational teaching opportunities in Tennessee:

- Practitioner Occupational – Initial three (3) year license issued to applicants who have met endorsement requirements according to state board policy and have had content verification provided by the Tennessee department of education. The practitioner occupational license may be renewed once.
- Professional Occupational – A six (6) year license issued to applicants upon meeting licensure requirements at the practitioner level, completing coursework covering the professional education standards and additional requirements as defined by state board policy. The professional occupational license is renewable.

School Services Personnel

Educators who provide services for students other than instruction (i.e., school counselor, school psychologist, school social worker, educational interpreter, school speech-language pathologist, speech-language teacher, or school audiologist) should apply for this license type. There are two types of School Service Personnel licenses:

- Educational Interpreter – Candidates seeking licensure and endorsement as an educational interpreter must hold a bachelor's degree from a regionally accredited college or university before a practitioner school service personnel license can be

issued. Official transcripts for all universities and colleges attended must be submitted directly from the institution to the office of educator licensure and preparation through an online clearing house or by mail. Candidates must meet the employment standards and assessment requirements of the State Board of Education. Candidates applying for a practitioner school service personnel license as an educational interpreter must also satisfy ONE of the following criteria:

- A current, nationally recognized certification which includes a written examination related to ethics and practice, or
 - A passing score on the written portion of the Educational Interpreter Proficiency Assessment (EIPA) and a minimum score of 3.5 of the performance assessment portion of the EIPA.
- Practitioner – Initial three (3) year license issued to applicants upon completion of a program approved by the State Board of Education, leading to endorsement as a school counselor, school psychologist, school social worker, educational interpreter, school speech-language pathologist, speech-language teacher, or school audiologist. Applicants must have also submitted qualifying scores on the state-required licensure assessment. The practitioner school service personnel license may be renewed once. An educator may only add other school service endorsements to this license. The practitioner school service personnel license may be renewed once.
- Professional – A six (6) year license issued to applicants upon meeting licensure expectations at the practitioner level, as a school counselor, school psychologist, school social worker, educational interpreter, school speech-language pathologist, speech-language teacher, or school audiologist. The professional school service personnel license is renewable.

Instructional Leader (Administrator)

There are three types of instructional leader licenses in Tennessee:

- Instructional Leader License-Aspiring (ILL-A) – Initial three (3) year instructional leader license issued to candidates who are enrolled in an instructional leader preparation program approved by the State Board of Education. This license allows educators to serve as an assistant principal and is not renewable.
- Instructional Leader License (ILL) – Initial three (3) year license issued to candidates who have completed an instructional leader preparation program approved by the State Board of Education and have submitted a qualifying score on the required licensure assessment. This license allows educators to serve as a principal or assistant principal and is renewable.
- Instructional Leader License-Professional (ILL-P) – A six (6) year instructional leader license issued to educators who have met licensure expectations for advancement from the ILL. The ILL-P is renewable.

Junior Reserve Officer's Training Corps (JROTC)

Active or retired military personnel seeking to teach JROTC will apply for this license type. The JROTC license is a five (5) year license issued based upon a certification of preparation by the branch of the military approving the teacher placement. The JROTC license does not entitle an individual to teach courses other than those designated as part of the JROTC program, consistent with the requirements of Section 49-5-108, *Tennessee Code Annotated*. No other teaching endorsement may be added to a JROTC license. The JROTC license is renewable.

Permits

A school district or public charter school may apply for a permit to hire an applicant for an academic endorsement only if the applicant holds a bachelor's degree. A bachelor's degree is not required for an applicant to teach an occupational endorsement. The school district may renew a permit twice by meeting stated requirements, allowing an educator to serve on a permit for a total of three years. A permit may be issued if the school district or public charter school meets the following requirements:

1. A director of schools or public charter school states intent to employ and indicates the position to be held by the applicant;
2. The school district or public charter school indicates that it is unable to obtain the services of a licensed educator for the type and kind of school in which the vacancy exists; and
3. The school district or public charter school identifies and documents a targeted recruitment strategy for the position or shortage area. The strategy may include but is not limited to, partnerships with educator preparation providers, advertisements, or recruitment campaigns.

Source: Department of Education website.

APPENDIX B-2

METHODOLOGIES

Teacher Licensure

We interviewed state department and local district personnel to obtain an understanding of the process for ensuring teachers are qualified at the state and local level. We also reviewed relevant statutes; state and local policies and procedures; and state board rules concerning teacher licensing and qualifications.

We received an allegation concerning Cheatham County schools' potential inappropriate placement of educators into classrooms without the appropriate licenses or endorsements to teach the assigned classes. We also selected Dickson County schools to review because of its comparable size to Cheatham County schools. At these two school districts, we reviewed personnel files for all educators selected in our samples (as described in the next section) and compared the documentation in those files with the district's stated procedures for hiring. For each sample, we also reviewed each teacher's class schedule and compared their endorsements with the endorsements required to teach the class, as outlined by the department's Correlations of Course and Endorsement Codes document for each school year.

Cheatham County School District

Sample A

From a population of 769 educators employed by Cheatham County School District during school years 2014–2015, 2015–2016, 2016–2017, and 2017–2018, we selected a sample of 130 educators to test for compliance with state laws, as well as Department of Education, State Board of Education, and Cheatham County School District rules, policies, and written and stated procedures.

Sample B

From a population of 84 educators teaching end-of-course classes in Cheatham County during school years 2014–2015, 2015–2016, 2016–2017, and 2017–2018, we tested all 56 educators that were not selected in our random sample of 130 educators in Sample A for compliance with state laws, as well as Department of Education, State Board of Education, and Cheatham County School District rules, policies, and written and stated procedures.

Dickson County School District

Sample C

From a population of 884 educators employed by Dickson County School District during school years 2014–2015, 2015–2016, 2016–2017, and 2017–2018, we selected a sample of 67 educators to test for compliance with state laws, as well as Department of Education, State Board

of Education, and Dickson County School District rules, policies, and written and stated procedures.

Sample D

From a population of 100 educators teaching end-of-course classes in Cheatham County during school years 2014–2015, 2015–2016, 2016–2017, and 2017–2018, we tested a sample of 59 educators for compliance with state laws, as well as Department of Education, State Board of Education, and Cheatham County School District rules, policies, and written and stated procedures.

Educator Preparation Programs

To achieve our objective, we reviewed how the department and the board evaluated the quality of EPPs; analyzed the results of these evaluations and improvement efforts; surveyed other states; interviewed department and board staff; and spoke with a sample (selected based on auditor judgement) of EPP administrators from across the state.

Achievement School District Follow-Up

To achieve our objective, we interviewed department management to gain an understanding of the corrective action measures put into place since the prior audit. We obtained a list of documents that should be placed in employee human resources files. From a population of 228 ASD employees on staff from July 1, 2017, through March 13, 2018, we tested a sample of 62 employees and reviewed their human resources files to determine if each file contained all required documents. We also obtained a population of 75 employees who ended their employment with ASD for the same time period and tested a sample of 60 of these former employees to determine if management properly offboarded the employees and obtained department-owned property assigned to the employee.

We tested the population of 44 ASD employees who received bonuses or pay raises from July 1, 2017, through March 13, 2018, to determine if management maintained appropriate documentation approving the pay raises.

From a population of 492 travel expenditures totaling \$32,788, we tested a sample of 60, totaling \$5,443, to determine if the expenditures complied with the state's *Comprehensive Travel Regulations*.

From a population of 2,192 expenditures, totaling \$12,446,943, we tested a sample of 60, totaling \$93,904, and all 6 external payment card purchases, totaling \$3,544, to determine if the expenditures and purchases were appropriate. In addition, we examined the payment card documentation for the 2 ASD employees assigned a payment card to determine if management followed the state's payment card policy when assigning a card to an employee.

We reviewed the department's Subrecipient Guide Book and federal regulations governing subrecipient monitoring. Finally, we reviewed the risk assessment and monitoring reports for reviews conducted as of April 24, 2018.

Child Care Center Inspections

We reviewed relevant state statutes; rules and regulations; and documentation related to the department's oversight and inspections of child care centers. We also interviewed the School-Based Support Services and Internal Audit staff.

From a population of 1,982 child care programs, we tested a nonstatistical, random sample of 50 programs and requested the most recent annual report and inspection report (both as of May 2018) to determine if the child care center directors submitted the annual reports on time, and if the department's regional evaluators documented their evaluation results and followed up on problems noted.

We obtained and compared the regional evaluators' county assignments for school years 2014–2015 through 2017–2018 to determine if management rotated evaluator assignments.

Local Educational Agencies' Self-Reported Student Data

We reviewed statutory requirements, interviewed department personnel, and reviewed board and department rules and regulations. From a population of 144 LEAs, we tested a sample of 25 to determine if they submitted their 2016 and 2017 compliance reports.

Energy Efficient Schools Council

To meet our objective, we reviewed relevant state statutes, financial and loan documentation, and various reports related to the council's operations. We also interviewed council staff; the council's Technical Advisory Committee chair; and the Comptroller of the Treasury's Office of State and Local Finance staff.

We performed testwork on all 5 loan applications approved in calendar year 2017 to determine if council staff approved the applications in accordance with its proposed rules. We also reviewed all 10 loans that the council closed in calendar year 2017 to determine if staff verified that project contractors completed the work as requested by the school district.

Tennessee Public Television Council

To achieve our objective, we reviewed relevant state statutes, rules, regulations, and budget and financial reports to gain an understanding of the council's operations. We collectively interviewed council members and the council's legislative lobbyist, and we consulted with legal staff in the Comptroller's Office. We also analyzed the council's financial reports for fiscal years 2015 through 2018.